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"TO IMPROVE THE SOIL AND THE MIND."

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## THE CULTIVATOR

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## Foreign Correspondence.

### LETTERS FROM MR. HORSFORD—No. IV.

Mayence—Frankfort—Mode of Traveling—Giessen—Prof. Liebig and his Laboratory.

Giessen, Germany, Dec. 1845.

MR. TUCKER—At Mayence, an hour of interval between arrival and departure, permitted me to glance at the most prominent objects. In the river, against the town, are some sixteen grain mills, which seem to be little floating houses, anchored, and their machinery carried by the current. Below the bridge of boats, commanding a fine view of the river and the lands beyond, is a vast red sand-stone pile, interesting as having been the head quarters of Napoleon, when here. It is now a mere store-house. Above the bridge, strong fortifications are going up. Two or three streets back from the river, is the cathedral, of which much was written in the guide books, but which I found it difficult to appreciate from the crowds of little insignificant buildings that surround it; as a specimen of architecture, it is quite lost.

A little farther on is the statue erected to the memory of the accredited inventor of the art of printing. It is of bronze, about 25 feet high—a figure robed, and with a huge bible under the arm—designed by Thorwaldsen. A few yards from it, on one side are wretched little antique buildings, under the shadow of the lofty cathedral; on the other, at no great distance, is the theatre, a splendid modern building; within a stone's throw are the walls about the city, destined to bear up cannon, and echo the peals of artillery; and here in the center, is a memento to the man, through whose invention the features of this ancient city are to be made known to residents of another continent—through which Luther revolutionized the world, and through which we may yet see Mayence strongly fortified without walls and a standing army.

From Mayence to Frankfort, a railway conveyance brings the traveller in an hour and a half. The road is level or nearly so, and the track supplied on either side, much of the distance with a row of trees. Frankfort-on-the-Mayn, is interesting as one of the free cities of Ger-

many. Its streets are about as regular as those of Mayence or Cologne, which is about equal to saying that a right line seems to have had no charms for the practical architects and engineers of these towns. The sashes of the windows are in the form of a cross; being made of four lesser sashes, which, each by itself, turns upon hinges. It is quite impossible to have a window elevated or depressed by weights, since the walls are filled in with bricks. The most modern, as well as more ancient structures, are all arranged in the same way. This is one of the great Fair cities of Europe. Every traveller, passing not more than a day here, sees a great many things to be remembered for life. I will mention but two or three. In a narrow street known as the residence of Jews, resides the recently made Baron Rothschild. His dwelling is a palace. A little way from his magnificent dwelling, in a humble unobtrusive structure, still lives his aged mother, refusing to exchange the hearth stones that have become dear to her, for even splendors that few monarchs of the world can command.

Along one of the principal streets, among other displays of costly ware, the colored Bohemian glass, whose manufacture is kept a secret, eclipses every thing of the kind I have ever seen. Blues, carmines, yellows, greens and reds, that seem to have been stolen from rainbows, are impressed upon vessels of every form and use. I understand approximations to the excellence of the article are made in England.

Here also, as in many places on the Rhine, rows of acacia trees have been cropped, causing the branches at the terminus to grow abruptly outward. The cropping again of the branches produces a similar effect upon them, and the foliage is in this way rendered exceedingly dense. It seems to be admired, but I did not find my early estimate of the beauty of the free wide-spreading oaks of the Genesee Valley materially lessened, though driving through them more or less for a day or two. The inhabitants have appropriated a birch shrub to the growth of hedges. It becomes dense by frequent cropping, and seems to serve the purpose well, though much inferior to the hawthorn hedges of England. They compel the same shrub to grow into a variety of fantastic shapes, as ornaments for gardens and passage ways. In a park not far from the theatre, is a statue of Goethe, much in the style of that of Mayence. The poet was born here.

From Frankfort to Giessen, an *Eilwagen* or diligence, conveys the traveler in about six hours. The villages along the way are exceedingly numerous, there being one as frequently as one or two miles. The country between is a section of cultivated fields, separated from each other and the McAdam roads, by nothing except little basaltic or red sandstone land marks. There are no dwellings intervening between the villages; some of the towns are walled and garrisoned. The only object that particularly interested me along the route was a mode of evaporating salt. There seem to be springs, like those at Salina, from which the water is taken to the top of a frame work some thirty-five feet high, and then permitted to trickle through bundles of twigs, to vats below. This of course much concentrates the water, and renders less boiling necessary, an important point where wood is so scarce.

The *Eilwagen* seats just nine passengers; six in one apartment, and three in the other. The seats are numbered and taken in the order of payment. Luggage is locked up behind and strapped on top. The horses, lean,

lazy creatures, are attached by rope tugs which are tied to the whiffletrees, and the driver with a trumpet, and a whip which he cracks perpetually, is uniformed in the most inconvenient apparel for discharging his duties—i. e. he wears a ponderous cloak, with an immense cape. His trumpet rings merrily out at certain unascertained intervals. This famous establishment is under the control of government, and over these beautiful roads, that would witness either in England or America, a speed of ten miles an hour, it lumbers along at the rate of five or six.

Giessen impresses the approaching traveler pleasantly. It is situated upon the Lahn, one of the tributaries to the Rhine, and scarcely equal to the Mohawk at Utica. The country around, reminds one of the valley westward from Little Falls. Upon basaltic peaks on either side are the ruins of castles or towers, seven or eight hundred years old. Between these and the Lahn, the cultivation is apparently excellent. Orchards of fruit trees, and of oak, birch and evergreen, beautify the landscape about, and beside the city of Giessen, not less than ten villages are seen across the valley and among the hills. The road enters the new town, in which the hospital, medical college, Liebig's laboratory and residence, and a series of beautiful edifices are situated. Two low stone structures mark the entrance to the city proper, entirely around which, a distance of I suppose a mile and a half, is a delightful promenade, occupying the site of the old ramparts. This promenade is skirted throughout with trees, and changing its direction every few rods, conducts one through a variety of scenes looking from Giessen across the valley of the Lahn, and out upon the basaltic cones, that in summer must be grateful indeed to students who have all day long been engaged with their books.

The old town has nothing to commend it to generous consideration. Boston is said to have crooked streets, and I have known a little surprise expressed at the serpentine character of some of the avenues of Albany; but they are straight lines compared with the narrow, irregular corkscrew passages of Giessen; and then the buildings upon a street are not parallel to any thing. With scarcely an exception, they are constructed of wood, filled in with brick, sometimes burnt, and sometimes unburnt, and plastered over within and without. The hotels have carriage ways through them, which permit the vehicles of travelers to be taken into a court-yard, where they may remain in safety. All the modern houses are entered from the back side; there being, with few exceptions, no marring the uniformity of the front, with so ungraceful an appendage as a door.\* The pavements are execrable, the citizens seeming scarcely to have known the luxury of a side-walk. Even the pulverized basalt, which is strown over the roads and streets, and ground to dust by the ponderous freight wagons, is swept away in a little time by the street scavengers, and preserved for purposes of manure.

To the vehicles of Germany, I intend to devote an entire letter; but I have already too long postponed an account of the mighty man whose genius has given such impulse to chemical and agricultural science—the teacher who has congregated in his laboratory, gentlemen from every kingdom of Europe, from Great Britain, the United States and Mexico—the man of whom something is known by every individual who speaks or reads the English language—who has been to organic chemistry, what Newton was to mathematics and astronomy—JUSTUS LIEBIG. My first interview with him was in his private laboratory. The reception seemed to me rather that of a military officer than of a scientific man.† He was manifestly engrossed with some matters of thought, and while he conducted me through the different apartments of

his great laboratory, I could but feel that working and thinking were the characteristic employments here. A gentleman to whom I was introduced, spoke in an under tone, as if conversation were contraband. Liebig turns to me and says, "You may converse in English two or three days, but not more." All this without a smile; decidedly a German mode, thought I, of impressing upon a stranger the necessity of study. I went to seek my lodgings rather depressed. A few days rolled away, and I was one of an audience of about a hundred students assembled in the lecture room awaiting the entrance of the distinguished man. The course of organic chemistry was about to commence. Gentlemen in great variety of costume, with note books, pens and ink or pencils were seated, conversing upon various topics, while before us, the assistant was just completing his arrangement of substances and apparatus to be employed in the lecture of the day. The hour of the lecture was on the point of striking—the murmur of conversation had subsided to a whisper—presently, the whole audience by one impulse rose, and I saw entering and bowing to the salutation, Dr. Liebig. He had just returned from England, where the attentions of the most learned, most wealthy, and most eminent had been lavished upon him, as they have been shared by no man in science in modern times. The published account of the great dinner at Glasgow, had reached Giessen. At Darmstadt, appropriate honors had signalized his return; and now, with the memory of all these things fresh in his mind and theirs, it was most interesting to look upon the scene which the lecture room presented.

The apartment in an instant was breathless, and the lecture commenced. What it was about, I was able to see from the formula on the black-board, and from a word now and then which I understood, but I was too much absorbed with the manner, to give much attention to what he said. He is perhaps two or three inches less than six feet, and stands quite erect, though a little rounding of the shoulders from much writing, labor and study, might be seen if made the especial object of search. His figure is slender rather than stout, which makes him appear taller than he really is. All his movements, and particularly those connected with demonstration, experiment, or illustration, are graceful to a degree I have not seen equaled in any lecturer. To see him hold in the same hand three glass test-tubes and an equal number of stoppers, while with the other he pours from vessels containing re-agents, at first a little excited my surprise. The portrait that to some extent is circulated in America, represents him much younger than he appears. Another, a lithograph, has recently been published, which is better; but no picture can be made of him. There is an expression of thought in all his attitudes and movements, which I could have scarcely believed upon the mere relation, and which the crayon cannot commit to paper; whether with the chalk and sponge, or with the index finger along the chin and nose, presenting that most singular of all German attitudes, or in gesticulation, or with apparatus, it is all the same. He is all mind—and it beams as distinctly through its corporeal tenement, as his chemical compounds are seen through the vessels that contain them. His detail of chemical decompositions and recompositions is clear and expressed without any circumlocution in terms, comprehended by every one. Occasionally these details bring him to review some investigations and theories of his own, and then a new animation is superadded to his ordinary bearing, and the illustrations are dramatic. His large eyes expand, and his features seem to glow. The gesticulations are sometimes so happy and so numerous, that I have fancied one might understand some of his themes even if he were unable to hear.

His notes consist of a few formula, written out upon two or three little strips of paper; and yet his lectures are as systematic as if elaborated with the greatest care. I have heard the remark made that Liebig is not an expounder of chemistry or an operator in chemistry, but is chemistry itself. I am inclined to think the remark encases a German idea, for it has quite eluded my humble American apparatus for sounding. Still, it is not difficult to see some of the probable data upon which this

\* An association which in the New World, would be sought for at a distance from eating and sleeping apartments perhaps, and indeed uniformly disconnected from the residence, and carefully concealed in shrubbery, here salutes one as he passes into what we would consider the entry hall.

† Frequent personal interviews have shown me that the bearing observed on the morning of my first visit, belongs to the laboratory and the station of instructor alone. Every where in private life, either around his own board, or in assemblies with friends, or in skating on the Lahn, he is among the first in giving the impulse to pleasure.



notion is founded. For example, he enters the laboratory, where he is surrounded by gentlemen engaged in a great variety of investigations. Here is one upon Benzoic acid, there one upon Hippuric acid, there one upon Allantoin; there one upon the Cyanogen compounds, here one upon a new gum, here one upon cheese, there others upon bread—and so on, all of them engaged in original investigation. He is ready to tell them the results for which they may look. Such is his familiarity with every fact in known chemistry, that its analogies are perpetually present, and enable him to premise almost any thing with regard to problematical investigations.

He comes to a gentleman who has a new substance. The Professor directs him to bring a dozen test tubes, and perhaps an equal number of re-agents. The unknown substance is in a few moments distributed among the test tubes awaiting the reactions. He goes on through the laboratory repeating similar experiments with other gentlemen; and the next day when he comes round again, if a test tube has been removed from its place, he knows it; moreover, the gentleman who by mistake leaves a process for a night, which ought to have been concluded at once, not unfrequently finds it, on his return the next morning, removed to the Professor's private laboratory. This vigilant surveillance, this powerful local memory, this readiness in affording explanation in all difficult matters connected with chemistry, have induced the expression of the above opinion. However, Liebig has quite deprived the opinion of its poetry, for he has said, for the encouragement of all his pupils, that every fact in the science cost him labor to acquire and labor to retain; and though now ready to pronounce upon the history and properties of every known organic and inorganic compound, he has acquired this prodigious mass of scientific information, only with prodigious labor.

Respectfully yours, E. N. HORSFORD.

#### MR. NORTON'S LETTERS—No. XI.

*Prof. Johnston's Lectures—Refuse of Distilleries—Sugar Cane—Silicate of Lime—Patent Manure—Guano Birds.*

Lab. of Ag. Chem. Association, Edinburgh, March 19, 1845.

MR. TUCKER—I had the pleasure yesterday of attending the first of a series of monthly meetings, which are to be held by the Ag. Chem. Association in conformity with one of their rules as to the duties of the chemist, by which he is required to devote a certain portion of his time to giving advice to members of the Association wishing the benefit of his counsel, and to communicate both the results of inquiries in the laboratory, and of his journeys through the country. Prof. Johnston, untiring in his efforts for the good of the agricultural community, exerted himself so successfully to make this meeting interesting and profitable, that I cannot do better than to notice some of the subjects which were brought forward.

The report of proceedings during the past month, was opened by an account of lectures which Prof. Johnston had delivered at Linlithgow and Colinsburgh. I heard both of these lectures, and saw the eager and delighted audiences who pressed forward to catch every word. Applications have since been made requesting their publication.

In mentioning some of the subjects that have been lately investigated in the laboratory, the first touched upon, was the refuse liquor of distilleries. Now distilleries in our country, I am happy to say, are diminishing in number, yet it is interesting to know that the residue after the first distillation, contains substances that are highly nutritious, and also valuable as manures. A large quantity of phosphate of lime is present, and constitutes much of its value. The "dunder," or refuse from the distillation of rum in the West Indies, has also been examined here, and found to be quite valuable. In connection with the same subject, was analysed the ash of the sugar cane, and the intelligent planters, instructed by the result, are now effecting a great saving by the restoration of it, as well as the dunder, to their land.

In my last letter, I made some remarks upon the silicate of lime. Prof. Johnston at this time, brought forward the same subject, illustrated by an analysis of a slag

sent from one of the iron smelting furnaces in Ayrshire. Mr. Cameron, fourth assistant in this laboratory, analysed it with the following results:

Alumina,.....	25.36 per ct.
Lime.....	39.47
Magnesia.....	22.75
Silicious matter,.....	32.19
	99.77

The quantity of lime, it will be noticed, is very large, but being in the state of silicate, it will therefore not be immediately available for the growth of plants, especially while it remains in hard masses. The gentleman who sent it says, however, that it may be crushed for a shilling a ton. In this finely divided state, it may be applied with much advantage, as its decomposition, constant, though slow, will furnish an unfailing supply of lime. Of course it should not be compared with limestone or marl, but it may be very valuable where neither of the other two can be readily obtained. It might be laid on in large quantity without fear of injury to the land.

The Cornwall Patent Manure, and the Salduha Bay Guano, which I also mentioned in my last, were commented upon, and the unfounded pretensions of the Cornwall manure exposed. Mr. Fromberg, the first assistant, has just analysed a sample of guano, from a cargo just arrived from Possession Island, a new locality. The following is his result:

Water,.....	12.72 per ct.
Organic matter and ammoniacal salts,.....	42.60
Common salt and sulphates and phosphate of potash and soda,.....	15.11
Phosphates of lime and magnesia,.....	15.95
Carbonate of lime,.....	trace.
Insoluble silicious matter,.....	13.38
	99.76

This is by no means equal to the best samples from South America or Ichaboe, but will compare well with some of the inferior cargoes. It is probably at present prices, worth about £6 per ton.

As guano begins to fail, they are bringing home the bodies of the birds themselves. Some of them were lately sent here, in order that their value as a manure, compared with that of guano, might be determined by Prof. Johnston. They had lain buried for years under the guano, and in appearance resembled the smoked geese from the Shetland Islands, sold in the shops here. They are quite saturated with ammonia, and their large bones add much to their value. They would require chopping into small fragments before depositing in the soil, and in consideration of this serious drawback, Prof. Johnston considers them worth about £4 per ton, or nearly \$20. Were it not for this difficulty, they would be worth as much as guano itself.

The remainder of the time allotted to the meeting was occupied by a discussion as to the best means of preserving the immense quantity of manure carried into the sea by the sewers of the city.

The next meeting is on the 9th of April, and a most interesting list of subjects is proposed. Of this I may also give you a sketch in a future letter.

Truly yours, JOHN P. NORTON.

#### MR. NORTON'S LETTERS—No. XII.

Edinburgh, April 27, 1845.

L. TUCKER, Esq.—It has occurred to me that in addition to my own letters, a series of practical papers from one of the farmers of the Lothians, a body of men confessedly surpassed by none in any part of the world, might be both interesting and highly instructive to the readers of your paper. Mr. Girdwood has kindly volunteered his services, and I may say without flattery, that very few, even in Scotland, are so well qualified for such a task. I cannot help saying that I sometimes disagree with him in theory, as for instance in the present article, I would have based the theory of rotation upon the physical condition as well as the inorganic constituents of the soil, but in practical matters I would bow to his decision. Without further preface, I am sure that your readers will be benefited by the advice of one who unites the practical wisdom of the Lothians to the enthusiasm

of early manhood, and who is making himself also a proficient in chemical science as the means of yet farther advance in his favorite pursuit. Truly yours,  
JOHN P. NORTON.

#### ROTATION OF CROPS.

Featherhall, Mid-Lothian, Scotland, April, 1845.

To the Editor of the *Albany Cultivator*:

At the request of my valued friend Mr. NORTON, I propose, should my time permit, and your columns afford room, to give you a series of short papers on the Agriculture of the Lothians, in the hope that they may prove interesting to a portion at least of your numerous readers.

I am unwilling to suppose that there is nothing in the experience of a district, so long famous for its agriculture, that may not be studied with profit, even by individuals possessed of great skill and knowledge in that most useful of arts; but at the same time I am aware that the most valuable parts of our system, may have already been transplanted, and may even now be flourishing in the United States, with all the luxuriance which a virgin soil imparts. Had I been ignorant before, the perusal of some late numbers of your excellent periodical must have convinced me that your countrymen are applying their favorite maxim, "go ahead," in a most emphatic way to this branch of industry—a course in which all men must wish them good speed. Having these considerations before me, it is with considerable hesitation, that I venture to make my appearance in the columns of the "*Agricultural Literature*" of America.

Trusting to your indulgence, I shall therefore devote this letter to some introductory remarks on the rotation of crops. I am fully aware that the sanguine expectations of some, as to the application of chemistry to agriculture, lead them to believe, that at no distant day, rotation of crops will be numbered with the things that were—that the finger of science will point out to us, not only the substances removed with each crop, but also how we may replace them in an economical manner. I am too ardent an admirer of chemical science to doubt its power to do this, but I cannot believe that it will very materially affect the axiom that a sound and philosophical system of rotation, is the basis of all judicious and profitable agriculture; for even were we so far advanced in chemical knowledge, as to be able to grow luxuriant crops of wheat year after year, on the same land, without deteriorating it, it is evident that the supply of this sort of grain would soon exceed the demand. From thus being the most remunerating of crops, owing to the limited extent of land on which it can be grown, it would gradually become less so, while the supply of the other crops which are less remunerating, owing to the fertility with which they can be grown on moist land, would be shortened, and the price of course enhanced; and when that point was reached, at which the profits were equally balanced, the further application of the principle would be arrested. I apprehend therefore, that the legitimate occupation of chemistry, is to point out to us how we may avail ourselves of the large amount of inorganic substances laid up for us in our own soils, by supplying those of which they may be in want—to show us how to draw upon nature, so that our drafts may be honored—how to pay the interest, that we may have the use of the principal, rather than that we are to look upon our fields, as a mere extension of space—the floor of a manufactory, into which we are to bring from without, *all* the raw materials required for the production of the substance we propose to obtain.

The theory upon which the rotation of crops is based, is, that different plants require different series of the inorganic substances contained in the soil, for their growth and development; but as these substances require the action of tillage and the seasons to reduce their particles to that minute state of division, in which they can be absorbed by the spongioles of plants, therefore the less frequently those plants which require the same series of inorganic substances are reared on the same soil, the more copiously will they be supplied with properly prepared food, when they are reared.

The following table from the *Transactions of the Ag-*

Chem. Association of Scotland, shows the amount of inorganic substances contained in three different soils, and that a fertile soil contains at least 9 or 10 of these substances.

	Very fertile.	Fer. with manure.	Barren.
Organic matter,.....	97	50	40
Silica (in the sand and clay,).....	648	833	778
Alumina (in the clay,).....	57	57	91
Lime,.....	59	18	4
Magnesia,.....	8½	8	1
Oxide of iron,.....	61	30	81
Oxide of manganese,.....	1	3	½
Potash,.....	2	a trace.	a trace.
Soda,.....	4	0	0
Chlorine, } Chiefly as common salt,	2	0	0
Sulphuric acid,.....	2	½	0
Phosphoric acid,.....	4½	1½	0
Carbonic acid combined with the lime and magnesia,.....	40	4½	0
Loss,.....	14	0	4½
	1000	1000	1000

Now it must be evident to every one, that if we go on for a length of time raising any particular crop which carries off a larger quantity of any of those elements than the relative proportion of it in the soil, we must by and by reduce the fertile soil to the state of the barren one. As an example, we may take potatoes, which contain a large quantity of lime, magnesia, potash, soda, and phosphoric acid. Now it will be seen that these very substances are almost all wanting in the barren soil; we may therefore conclude that if we go on raising potatoes year after year without adding the whole of the substances removed, we will reduce the fertile to the state of the barren soil.

From what has been stated, it must be obvious that a proper course of rotation, is that which removes equal relative quantities of the different substances composing the soil, and which places those plants which feed on the same substances, at as great distances from each other in the rotation as possible. This holds good even in the vicinity of large towns, where, from the facility of obtaining manure, a large portion of, if not all the substances carried off, are returned to the soil; as by adhering to a judicious rotation even in this case you present such a profusion of aliment to the different classes of plants, as to convert *good crops* into *luxuriant ones*. In forming a correct judgment of any course of rotation, we must also take into consideration the facilities it affords for eradicating weeds, and keeping the land in that state of absolute freedom from them, which, while it adds profit, so it ought to be the pride of every agriculturist.

In my next, following up this subject, I shall give you some account of the rotation of crops as practiced in the different districts. I am, sir, your most ob't serv't,

JNO. GIRDWOOD.

#### MR. MITCHELL'S LETTERS—No. VI.

*Island of Jersey—its Agriculture and Exports—Jersey Cows.*

St. Saviour's Parish, Jersey, March 1, 1845.

LUTHER TUCKER, Esq.—Jersey is like a garden; the soil rich, the tillage thorough, the enclosures small, and surface most various. I have not yet seen a single field of more than half a dozen acres, nor one of more than three, presenting the same plane to the sun. The fences are high hedge rows, about twelve feet broad at bottom, by four or five at top, covered with green turf and ivy, and shooting up tall elms of eighteen inches diameter from their tops. The law obliges every man having such trees along the south side of a neighbor's enclosure, to keep them lopped—the consequence is, half the hedge-rows bear the strange growth, of a tree without limbs. The farms are small, and farmers many, who in most instances, own the lands farmed. Jersey laws, unlike the English, provide for younger brothers, and at the death of a father, makes one farm into many. The size ranges from five to forty acres. The lands grow chiefly apples, potatoes and grass. The agricultural exports are cider, potatoes, wheat and cows. The orchards are scattered thickly over the Island; scarce a house being with-



out its perquisite of cider trees. The trees are small, and covered with a green moss, the consequence of the humidity of the climate; I observed the same of the orchards of Devonshire. A great deal of cider is drunk, and many thousand hogsheads shipped annually to England. Their best apples for eating, are much inferior to ours, though superior to any I saw in England. They are fair and beautiful to the eye, but lack flavor and life; the best I have seen is a Pearmain, of flavor very like our Seek-no-further, but inferior to it. They sell at a penny and a half-penny each. Pears, I am told, are of unusual goodness; they have not only the best French varieties, but one peculiar to the Island, of extraordinary size and rarity, selling in its season, for half a dollar each. The cider (I have drunk only the new made,) is very rich. The mode of making quite similar to that with us; as with us, there are here various nostrums for preserving its sweetness.

The potatoes are excellent; large, fair, very white and mealy when boiled, and of the best possible taste; that is, no taste at all. Their crops are large; great numbers pass along the street every day for shipment to England, and various other parts. Both their excellence and abundance are owing, I think, in a great measure to the peculiar culture. An old green sward, is in the winter run over with an exceedingly light furrow, just sufficient to turn the turf. This is left for a month or more exposed to the weather; the field is then cross-plowed, after a very different fashion. To use the words of my informant—"We first skim it, and afterwards we puts the big plow, and ten or twelve horses to her, and takes it down about a foot." The plows are monstrous; very strongly made of wrought iron, and perform the work most thoroughly; their operation differing from the subsoil plow in turning the decaying turfs to the bottom—thus leaving a light deep bed for the tubers. The gearing of the plow is singular, the horses being attached by means of a short rod, and pair of wheels. No small farmer, indeed none on the Island, could command sufficient force for such plowing. But by bringing together the draft horses of a dozen neighbor farmers, the work is effected. This interchange of work is very prevalent in harvesting, as well as breaking ground. The potatoes are invariably cut for seed—dropped in a furrow and covered by a lap of the furrow; planted in drills; and the digging is effected by means of a double mold-board plow. They sell now for exportation, at from 40 to 50 cts. per bushel. They are not, like crops above ground, subject to tithes.

Hay is of good quality, and bears a high price. Nearly all the valleys and lower grounds are kept in grass; and in those which are irrigated, even thus early, (1st March,) there is a cut, longer and thicker and stouter, than in a New-England door-yard, at 1st of June.

All the wheat raised in Jersey is exported. It is explained from the fact that imposts are not known here, and produce of the Island goes to England duty free. The consequence is, farmers find it most profitable to ship their wheat for English prices, and to return for their own consumption, American flour, from the English warehouses, or to supply themselves with bread stuffs from the continent. Absence of duty enables the farmer to purchase other provisions proportionately cheap. Thus, best of Santa Cruz sugar is 7 to 8 cts. the pound, &c. It might appear that advantage would be taken of the privilege of free shipment of Jersey grain to British ports, to mix foreign produce with home stores, and so multiply profits. This is strictly guarded against. Every farmer is obliged to report at the opening of each season, the number of acres he means to put to wheat, barley, &c., to the Island authorities, with an estimate of the probable crops; and any falsification is punished by heavy fine.

Jersey cows are famous; they are better known in England and America as the Alderneys. There is but trifling difference in the breeds of the two Islands; if any, it is decidedly in favor of the Jerseys, in point of size, general appearance, and milking properties. About two thousand are annually exported from this Island; and remembering that the Island compasses but about 40,000 acres, you will conclude, with me, that some roots are

"made," (this is their term for growth,) some hay is made, and some money is made. The cows are of middling size, small heads and necks, short crooked horns, clear, intelligent eyes, with small feet, high hip bones, heavy quarters, large bag hanging low; their color is a yellowish brown, changing to deep chestnut along the line of back, and frequent white spots. They are kept stalled in the winter, save an occasional turn out to grass or turneps, upon a pleasant day, at which times they are tied to a stake driven in the ground. They are always kept tethered in the field, summer or winter. Either head tied to foot, or to tree or stake. Various reasons are given; the best, they do not get at the apples, they consume less feed, and (a doubtful one,) they give more milk. They milk them until within a short time of calving, and feeding on parsneps, turneps, and hay. In summer they are milked three times a day. The heifer calves, in consequence of the demand, are all raised. The calf is not suffered to be with the cow at all, but fed upon milk and slops. No cow can be imported into Jersey from any quarter, under a heavy penalty. This is to guard against corruption of the breed; of which Jersey people are over proud. Talk to a farmer of the merits of any English breed, and you will bring a torrent of his Island *patois* about your ears, less tolerable than the bleating of his motherless calves.

Veal begins now to appear in the market. I have tasted none but French, which was miserable. Butter is beautiful. The dairies are above ground; milk is set in earthen pots; in hot weather, suffered to sour before it is skimmed; butter is never worked with the hands. It is made into samped pound cakes, which bring about 25 cents each. A curious custom prevails in the market, relating thereto; twice a week an examination is made by proper officers, of the butter; if any falls below weight, even so much as half an ounce, it is taken away and given to the poor. The consequence is, the pound cakes range an ounce above weight.

Manure is saved with care; there is little draining and little needed. Irrigation is general. There is no lime, or marl, or gypsum, or peat, upon the Island. But, says an old historian—"The winter *oraie* (our Cape Ann rock weed,) being spread on the green sward, and after, buried in the furrows by the plow, 'tis incredible how with its fat unctuous matter it meliorates and fertilizes the earth, imbibing itself into it, softening the clod, and keeping the roots of the corn moist, during the most parching heats of summer." I should like to tell you more of Jersey, but this is the end of my sheet.

Yours truly,

D. G. MITCHELL.

#### KERRY COWS.

*Great yield of Butter.*—In the rough and mountainous parts of Ireland, there is a small race of cattle called the Kerry breed. They are considered indigenous to the country, and are much esteemed for their good qualities—especially for the dairy. From the descriptions and engravings given of them by writers, particularly by Youatt, and by Low in his "Illustrations of British Cattle," they appear to be a beautiful as well as hardy and useful variety. Mr. Youatt says—"The cow of Kerry is truly a poor man's cow, living every where, hardy, yielding for her size abundance of milk of a good quality, and fattening rapidly when required."

Mr. COLMAN, in his late speech at Sir Charles Morgan's cattle-show, spoke of the Kerry cows as follows:—"He found in Ireland a dairy consisting of five dairy cows, from which the owner had sent to Liverpool, twenty-five firkins of butter, averaging 64 lbs. a firkin, and that was 320 lbs. of butter to each cow for the season. He conceived a stock of dairy cows worthy as much attention as a stock of fat cows. He believed from observation, and observation not confined to a few years, that in many localities, the farmer's best property, would be a good stock of dairy cows." (Report of Mr. Colman's speech in the London Farmer's Journal, Dec. 30, 1844.) In the Journal of the Royal Ag. Society, we find an account of a trial made between three Ayrshires, three Galloways, and three Kerry cows. The Ayrshires gave rather most milk, but the Keries exceeded them all in butter.

## Domestic Correspondence.

## RABBITS.

MR. TUCKER—In your last November number, you intimated that if any of your readers had had experience in breeding and rearing rabbits, you would like to hear from them. The result of my experience you can have in a few words.

A few years since I purchased a pair in the month of May, and before the next winter, the doe produced twenty-eight young ones that lived and were fatted, besides a number of others that died. Since that, I have kept a supply all the time, and can assure your readers that a fat rabbit, stuffed and roasted, is not bad to take at any time. One rabbit has about as much meat as two full grown fowls, and the trouble of taking care of them is very trifling. Finding that, like some bipeds, they were sometimes disposed to make a bad use of their liberty, I constructed a pen of rough boards 10 by 14 feet, and 3 feet high, with a floor and roof. This I divided into three apartments, and put in them a number of tea, candle and glass boxes, with a hole in each large enough to admit a rabbit, and sprinkled in a little hay or straw. For food, I give them through the summer little else but the weeds of the garden; and in the winter, the refuse beets, carrots and cabbages, with a little bran or oats. In this way, attended mostly by children, to whom they afford much pleasure, they grow fat and multiply surprisingly; and their skins supply all the little girls with pretty muffs and various trimmings for their clothes. On the whole, Mr. Editor, I would recommend the keeping of a few rabbits as a source of profit and pleasure; and especially as the outlay, the cost of food, and the trouble, are hardly worth naming. The breeding of them on a large scale for market, might doubtless be made profitable, for the supply is seldom equal to the demand.

Your correspondent, W. J. Powell, of Marshall, Michigan, inquires in your January number, what course of treatment will produce a large crop of grass on lands in his vicinity, "*admirably adapted to the growth of wheat and other grains.*" I think the answer may be given in a few words, *sow a much larger quantity of seed.* A soil good for wheat, possesses all the constituents for producing an abundant crop of grass; and he admits that clover and timothy readily take root and become very tenacious in the soil. Sow your seed plentifully then, and other requisites being attended to, a large crop is ensured.

H. A. P.

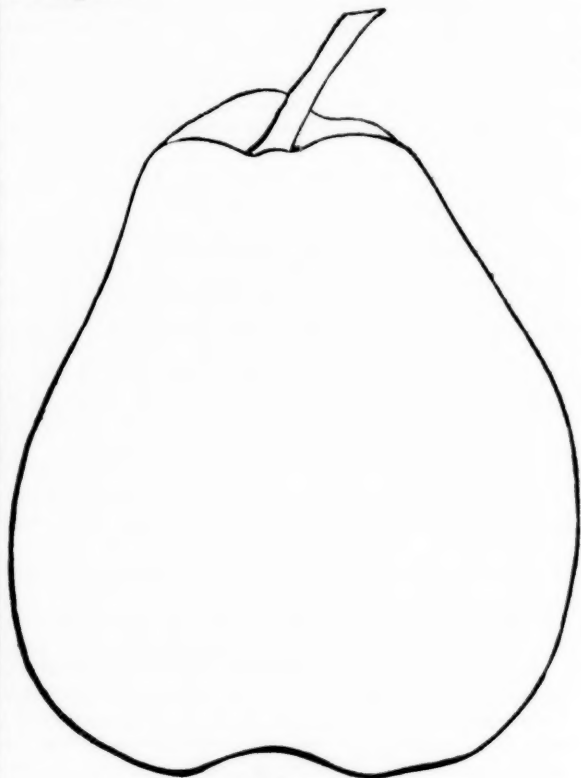
## SEEDLING PEARS.

Hon. H. W. Edwards, late Governor of this State, having in his garden some seedling pears of great excellence, was requested by the Pomological Society of New-Haven, to give an account of the process which he pursued in obtaining them. He accordingly read to the Society some memoranda made by him in 1839.

The success of his experiment is well calculated to encourage others to "go and do likewise." I propose to lay before your readers a few of the details of Gov. Edwards' management, as given by him, and a brief description of some of his pears, furnished mostly by the kindness of Dr. V. M. Dow, Secretary of our Society.

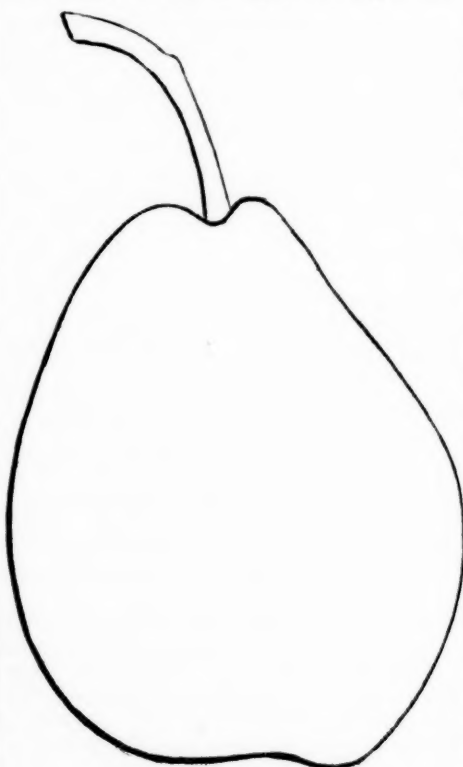
The seeds were planted in the summer and fall of 1817, and spring of 1818; some when the fruit was ripe, some late in the fall, and some early in spring. In some instances, the core was planted with all the seeds in. *He planted none but the seeds of good pears.* They were inserted from one to two inches deep in the earth. No particular difference was observed in the growth, arising from the difference in the time or manner of planting. When the whole core was planted, the trees came up in clusters, and soon after they came up were transplanted to a few inches from each other, in rows far enough apart for the hoe to be used. All the trees were transplanted at two years old to about a foot apart. The ground was kept clear of weeds, and manured occasion-

ally. At six years old, about 25 were transplanted, the 8th of March, to different parts of the garden, where they now stand. About 20 were left in the nursery. Some of the trees commenced bearing in ten years from the seed; others have come in bearing in succession up to 1844. No two trees bear fruit exactly of the same kind, and no one tree bears fruit exactly like any other known. In some instances, the resemblance is sufficient to indicate their origin; and when this can be traced, they prove in some cases superior, and in others, inferior to the original.



1. EDWARDS.

Ripe about the 1st of September, weighs 7 ounces. Flesh rich, juicy, half-melting, high flavored and sweet; of first rate excellence among pears ripe at this season, considering its size and qualities together.



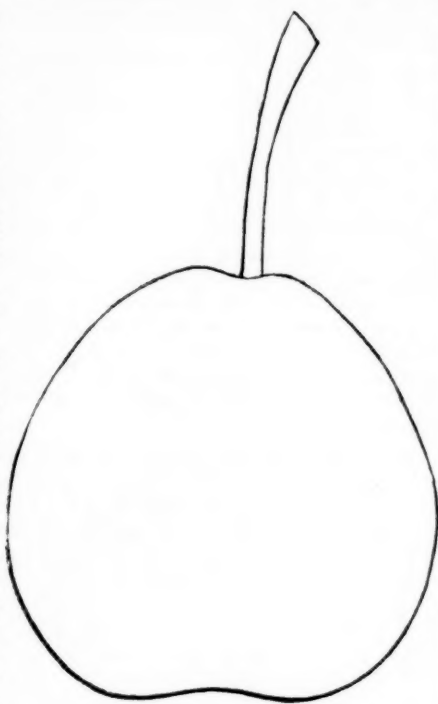
2. Henrietta.

2. HENRIETTA.—Ripe about the first of September, weighs 3½ ounces; color green, with sometimes a copery blush on the sunny side; juicy, melting, sweet, sub-acid & rich. Skin smooth and form regular. A first rate pear.

3. CITRON. Ripe from 1st to 15th of Septem. weighs 3 to 5 ounces; larger than the Seckel pear; flesh melting, juicy, very sweet and

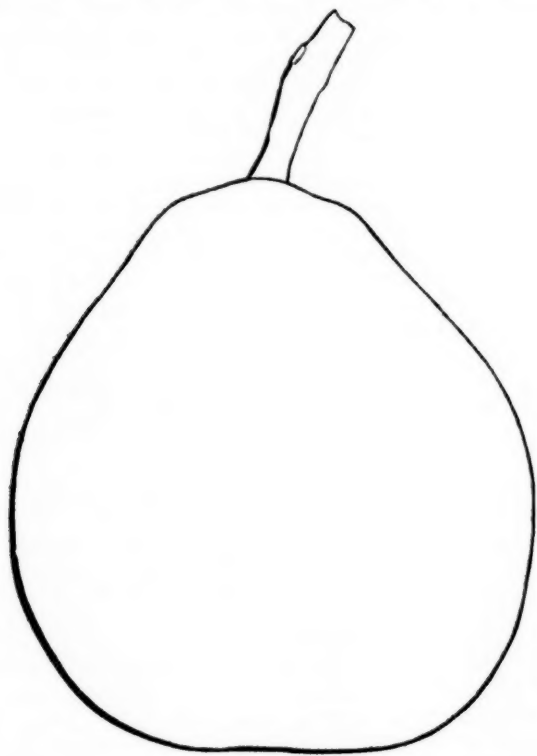


delicious; skin deep green, cheek slightly ruddy next the sun. It does not change color much in ripening, hence it is difficult to know when it is ripe, except by handling. The fruit will be insipid if the tree is too much loaded. For these two reasons, the tree should be kept down so that the fruit can be *thinned* when small, & *felt*, at the time of ripening.—With attention to these circumstances, we may have a pear exquisitely delicious. It does not keep long after it is mellow.



3. Citron.

4. CANTELOPE.—This is not among the best, but has qualities that are desirable. Ripe, October and November; color lemon yellow; weighs 5 ounces. Fair, round and regular; flesh tender, rather breaking than melting; fine grained, sweet, juicy, but not high flavored. The tree is prone to bear too abundantly. If the fruit is not thinned, it will be almost tasteless. In a hot summer, with few pears on a tree, the fruit will be very fine for the table. But its special excellence consists in being a superior baking pear. It does not decay at the core.



5. Calhoun.

5. CALHOUN.—Ripe September to November; weighs 4½ ounces; color greenish yellow, sunny side inclining to orange, with the larger end spattered with russet; flesh sweet, rich, sprightly, and high flavored, scarcely any acid perceptible, very juicy and melting. A first rate pear.

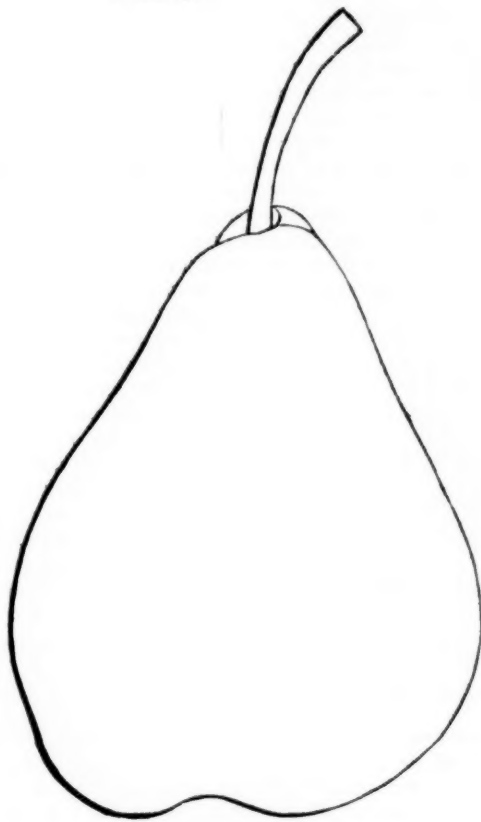
6. POLK.—Came in bearing this last summer; ripe September 1st; about the size of the Citron, above de-



7 Henry.

scribed; resembling in form a Bergamot. Flesh juicy, melting, sub-acid, sweet and rich; quality first rate.

7. HENRY. Ripe fore part of September, weighs 2½ ounces; color green, turning to yellow, with a coppery blush. Flesh juicy, melting and exceedingly rich and sweet; not surpassed by any in richness. It seems inclined to crack; if it recovers from that tendency, it will rank as a first rate pear.



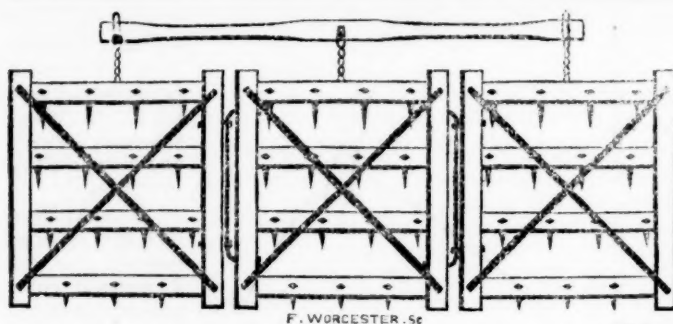
8. William.

8. WILLIAM.—Ripe about the 1st of September; weighs 3½ ounces, color pale yellow, dotted with red and brown. Flesh sweet, juicy, melting and rich. A lover of sweet pears would pronounce it first rate.

None of these seedlings are remarkable for their size. In flavor and other desirable qualities, there are five, perhaps seven, varieties that are to be placed in that class of older sorts designated as *first rate*, *excellent*, *very fine*; and there are seven that may be classed with those termed *good*, *fine*, *superior*. Most of the remaining varieties are better than those commonly cultivated about the country. This experiment has resulted in the production of first rate pears in much larger proportion than is common in the experience of others, including Professor Van Mons; and shows, I think conclusively, the great advantage of sowing the seeds of the best of pears only, which was the course pursued by Gov. Edwards.

New-Haven, Ct., Feb. 1845.

NOYES DARLING.



COMPOUND CENTRE-DRAFT HARROW.—Fig. 60.

Strong, light, convenient and long enduring, covering a space nine feet in width, yet under the easy management of a lad and span of horses, these harrows must supersede the use of all others, for the purpose of seeding grain or grass, on lands cleared from obstruction, and of large extent, performing the operation in one quarter part the time, and with one-fourth the labor.

They are worked in sets of three, but can be separated by unscrewing a couple of bolts, so as to form a pair, or three separate harrows, in a minute or two of time. Each harrow covers a space three feet square; the teeth, 17 in number, are placed in cross bars, so that the harrows follow in straight lines, and not *diagonally*, as is customary, and almost universal. No two teeth follow in the same track; and although placed at nine inches distant in the bar, to permit those clods, which are not broken by the first concussion, to pass through and be operated upon by each succeeding row of teeth, without choking the harrow, yet the interstices will be found to measure two and a half inches only, at regular distances, with the surface of the land as perfectly raked as that of the garden, affording the finest bed for the smallest seeds. The most uneven surface is operated upon by these harrows, the joints permitting them to descend into hollows, and to clasp the elevated portions without lifting, choking, or dragging the soil into heaps; whilst among the remains of vegetable matter, too often left exposed on the surface by badly constructed plows, they make their way, requiring little labor to keep them free, the driver lifting the middle harrow by a line fastened to it, which he carries in his hand for the purpose; and guiding the team by lines fastened to the outside of each bridle, the animals being kept at some distance by a jockey stick, he will have the means of attending to this, as well as seeing that the harrows are kept perfectly square to the work; which is indispensable to their proper performance; for by dragging diagonally, the teeth will be found to follow in the same track.

It is remarkable, that while improvements innumerable have been made in the plow and agricultural implements in general, the harrow has remained the same for ages. In a late visit to the Patent Office in Washington, amidst scores of other models, not a single one of the harrow was to be found, nor did it appear that any had been patented; the worthy Commissioner expressing surprise at the fact. Those in common use, operate by force, and compressing the surface so as to close the pores of the soil, when the pressure of the atmosphere falling on it, it is rendered in a measure impenetrable to the roots of plants, as well as to the fertilizing influences of heaven. The object of the present improvement is, to lighten the soil, after the manner of the garden rake, by which the seeds are covered, and the land pulverized, in a manner quite different from all others; a single tining after the seed is sown, and another, crossing the land, being generally found all-sufficient for every purpose; much however, depending on the manner in which the land has been plowed; but if that has been done by the centre-draft plow of Prouty & Mears, which operates by breaking and pulverising the land, after the manner of the *spade*, the Compound Centre-Draft Harrows will then be found to leave the surface, with the neatness and precision of the *garden rake*—a perfect spade-labor business, which is “the perfection of good husbandry.”

Philadelphia, 1845.

JAMES PEDDER.

## MAKING SUGAR FROM CORN-STALKS.

MR. TUCKER—A short time since I met with Mr. Adams' account of his experiment in manufacturing corn-stalk sugar; undertaken from the inducements offered by the New-York State Ag. Soc., and for which they awarded him a premium of one hundred dollars. I was much interested in its perusal, as it strongly reminded me of the difficulties and discouragements experienced in the earlier stages of the same inquiry, when experiment was the only available source of knowledge to which we could turn for assistance in our exertions. As I have pursued this subject with unabated confidence and reasonable success, since its commencement, my experience may perhaps be useful to Mr. Adams and others engaged in perfecting this important and interesting manufacture.

Before proceeding further, I must find a little fault with your Agricultural Society. Its premium was offered for the “maximum quantity of sugar made from an acre of northern corn.” It appears to me that the great object to attain, is a plan by which sugar may be made *profitably*. It is very possible to expend more labor in the manufacture than the article would be worth; such a plan would of course be worthless practically, whatever might be the *amount* produced. Secondly, in planting corn for sugar, I should prefer seed that had ripened in a more southern latitude, as less liable to run to ear early in the season. In raising this crop, the great end to secure, is the perfect growth of the plant in every particular, except in the formation of its seed. No plan ever yet tried has succeeded completely in effecting this object. Those stalks which (from some cause yet unknown) have shown no disposition to form grain, are always far more juicy, and yield a much larger quantity of sugar, than those from which the ear has been removed. As soon as this hitherto accidental condition of the plant is brought by persevering efforts, within our control, I confidently expect that the corn-stalk will not merely rival but exceed the sugar cane in the amount of saccharine matter it will yield. The past season, a small lot of corn was planted in rows three feet apart and about six inches asunder in the row. As soon as the tassels appeared they were pulled out. The result of this experiment was encouraging, but not entirely satisfactory; another lot of corn growing within one hundred yards, was allowed to tassel, and this perhaps caused the partial failure. In order to try this plan fairly, the corn should be grown distant from any other, and the tassels pulled out before any of their pollen has been shed. Very thick planting, in order to prevent earing, is objectionable, as it renders the crop more liable to be prostrated by storms; and the stalks being small, the labor of handling them is increased; they should not be less than one inch in diameter, or about the size of broom handles; the distances in planting in order to produce this size, will vary according to the quality of the soil. Whatever plan is adopted, to prevent earing, it must be attended to, or the sugar of the stalk will be expended in the formation of grain.

When the corn is ripe, (which will happen about the usual time of cutting corn) cut off the tops at the point where the ear generally forms; the leaves on the stalk below this, are few in number and mostly dead; they may be sufficiently removed by simply passing the knife from top to bottom on each side of the stalk. By pursuing this plan, the formidable labor of stripping the stalks, which has been complained of, is greatly lessened, and the whole business put in a practicable shape.

The method of curing “tops and blades” is so well understood by farmers, that nothing need be said about it here. Experience has proved that the extras of this crop, (the tops, blades, crushed stalks, &c.) are worth more, when properly secured, than the whole labor required in growing and manufacturing, provided this labor is economised, in the way pointed out. In the list of plants cultivated for forage, there is not in the whole world, another one that is equal to this in the amount of nutriment, which it contains. It is well worth cultivating for the fodder alone; the stalks therefore cost noth-



ing; every farmer may see from this, how (if he chooses,) to steer clear from his grocery bill.

The mill for grinding, best suited for the farmer, is a simple one, and need not cost more than \$10.

The boiling apparatus should consist, 1st, of two defecating kettles; they may be of cast iron, and capable of holding as much juice as the mill will press out in 15 or 20 minutes; these kettles must be placed so that a quick and strong fire can be made under them; and so arranged that they can be emptied at a moment's warning. 2d. Two or three evaporating pans; a single sheet of Russia iron, bent up six inches at the sides and ends, and riveted, makes an excellent pan of this description. 3. Two copper or tin pans for finishing; these should be flat bottomed, six inches deep, and so arranged that they can be removed from the fire instantly when the charge is finished. They should never have much over two inches in depth of syrup placed in them at one time, and should each be of such a size that a charge of three or four gallons will not fill it deeper than this.

The difficulty of manufacturing sugar to the best advantage, has always been considerable. This has grown out of the foreign substances always found connected with it in the juices of plants. Sugar is one of the most easily decomposed substances in nature. The juice of a plant may be very rich in sugar, yet when slowly evaporated, the residue will not show a single trace of saccharine. In the process of vegetation, as the plant approaches maturity, sugar is changed into starch. In the germination of the seed, a contrary change occurs, and starch is converted into sugar. I took a portion of sprouted corn, and macerated it in water until the sugar was extracted; the liquid then strikingly resembled both in taste and smell, the juice of corn-stalk after it has been clarified; it was then set to evaporate over a slow fire; it gradually grew darker in color, and in a short time it appeared very much like beet juice. Before the evaporation was finished, every particle of sugar had disappeared, and from being sweet and pleasant to the taste, it had become black, bitter and nauseous. The same experiment was repeated under the same circumstances, except that a small portion of starch was added to the water; in this case, the sugar was not decomposed, but retained its distinctive qualities throughout evaporation. The chemical reasons for this, it is needless now to discuss; the simple fact, and its application, are sufficient for our purpose. Wheat flour consists principally of starch, and was used with good success, though perhaps pure starch would be better. One pint of flour was mixed with two gallons of skim milk, and one pint of this mixture was added to 30 gallons of juice. These proportions are not given as best, for many more experiments will be necessary before they can be determined accurately.

As the juice comes from the mill, it should run into a receiver which will hold just enough to fill one of the defecating kettles; while in this receiver, the mixture of flour and milk, and also the necessary quantity of lime water must be added and well stirred in. It is then poured at once into the defecating kettle and heat applied; a very firm thick scum is by this means separated, and the juice becomes clear; it is next run through a flannel strainer into one of the evaporating pans, and the boiling kept up briskly. Take a shovel full of red hot coals from the furnace, and after blowing the ashes off, throw them into the pan; as you put in more juice, add more coal, as the pan becomes filled with coal, take out that which has been in longest. From this pan the juice is run in succession through the others, (straining it when convenient,) until it is finished.

WM. WEBB.

Wilmington, Del., March 14, 1845.

WESTERN RESERVE MAGAZINE OF AGRICULTURE AND HORTICULTURE.—We have received the first number of a monthly periodical with this title, published at Cleveland, Ohio. The leading character of this number is rather horticultural, and it is illustrated with several cuts of pears, apples, and other fruits. The articles are of a highly creditable character, and well worthy of attention. Among the contributors, we notice the name of Dr. J. P. Kirtland, well known as one of our most able horticultural writers. Edited by F. R. Elliott. Terms, \$1 a year.

#### PRUNING FRUIT TREES.

L. TUCKER, Esq.—Alonzo Gray has written a valuable treatise on agriculture. We have just read it with much pleasure. He advises to prune fruit trees in winter, as many others have done. From our observation, the winter is not the best time for pruning, unless the stocks are immediately covered with liquid grafting salve, or other gummy materials, &c., which may easily be done, if warm and liquid, and put on with a painter's brush. If left uncovered, the stocks become dry, shrink and crack, and let in water, and rot and disease follow.

A neighbor of ours has a few trees of the best kind of apples. He complains that all his trees decay by rot, &c. He trims them every season in February; and scrapes and washes them with great care and labor. All his trees thus decay. We think it is caused by thus trimming in winter.

If trees are trimmed the last of May or first of June, when a plentiful flow of sap is furnished, the stocks heal over soon, or during summer. It is prudent to cover the stocks with salve, as above mentioned, if you would do the work perfectly, which is certainly best.

Schenectady, April, 1845.

D. TOMLINSON.

#### SPONTANEOUS VEGETATION.

MR. TUCKER—I am very far from believing that any condition of the elements, can compel nature into such a violation of her immutable laws, as the transmutation of wheat into chess; yet who can satisfactorily answer the question, *where does the seed chess come from?* I have it from the best authority that an abundant crop of chess has been grown on new land, when the cleanest of wheat has been sown. Some writers have pretended that chess will sometimes remain in the ground many years without vegetating; but our most experienced farmers assert that chess vegetates much more easily than most other seeds; that even red clover seed will remain in the ground much longer without vegetating than chess; yet we never see red clover appear on land where the seed has not been sown.

I would also ask the question, where does the seed of white clover come from? We have it from the best authority, that soon after the trees are cut off from a calcareous virgin soil, white clover invariably appears. A farmer who lives on the Allegheny ridge in Pennsylvania, where there is no calcareous soil, informs me that he has tried the experiment of sowing lime and plaster on a patch of ground covered with sorrel, when the sorrel was the next season succeeded by white clover.

When I have seen young oaks growing in the midst of a forest of pine stumps, I have said to myself, where did the acorns come from to grow these oaks; they certainly were not brought here accidentally, because the nearest acorn bearing trees were forty miles off, in a new and sparsely settled country.

It is in perfect accordance with nature's laws, that the oak should follow the pine in the order of succession; most pine bearing soils, being doubtless originally too deficient in alkaline salts, to admit of the growth of the oak and other deciduous trees; but after the soil has been for hundreds of years acquiring carbonic acid and alkaline matter, through the agency of the incumbent forest, it is sufficiently rich in salts, to admit of the growth of a deciduous vegetation.

But apropos of chess; may we not sometimes refer its presence in the wheat field, to that mysterious principle in nature, which has from the beginning, caused organic matter to spring spontaneously from certain inorganic elements, dependant however for its all subsequent growth and maturity, to the same laws that control, as the French physiologist would say, *the atmosphere of plants*.

Waterloo, N. Y., 1845.

S. W.

FRUIT TREES.—An excellent mode for preventing young fruit trees from becoming hide bound and mossy, and for promoting their health and growth, is to take a bucket of soft soap, and apply it with a brush or old cloth to the trunks from top to bottom.—*Boston Cultivator*.

## NOTES OF TRAVEL—No. IV.

*In Missouri, Kentucky, Tennessee and Missouri.*

BY SOLON ROBINSON.

If I mistake not, my last communication closed while we were yet in the lead region of Missouri, and as I wish to keep up a continuous narrative of all our wanderings, I shall take up the yarn as near as possible where it was last broken off, which I think was the 25th of January.

On the 29th, I passed through the town of Farmington, the name of which for once, intimates something of the country around it. During the morning ride, the road continued over the same description of hilly poor land that it had for several previous days, and the appearance of the inhabitants corresponding with the country. But in the vicinity of this town, the land is good, but the dwellers therein lack the go-ahead spirit always observable around a settlement composed of "down-easters." I observed but little good stock of any kind, though from the appearance of the old orchards, it is evident that somebody had been a long time here—not long enough however to trim the fruit trees. In fact, while speaking of this, I find a great many persons who contend that peach trees are better without trimming. Of this, I cannot say, but I certainly shall continue to trim mine, commencing in the nursery.

I don't know but I mentioned before, that the red unctuous clay that is found with the lead, appears to be conducive to the healthy growth of fruit trees. Who can tell what is the fertilising quality it contains? The appearance of wheat still continues unpromising—and mills few and far between.

It may interest some of your readers who keep a memorandum of the weather, that I should give occasional notes of the state of it at different times and places, so that by reference, they can make comparisons. This then, has been a fine sunny day, and mud fast drying up.

Jan. 30, I passed Mine-la-Motte, situated in Madison county, the oldest worked lead mines in the United States. A tract of land, I believe 3 miles by 6, is owned, or rather held under a somewhat doubtful title, (the claim being disputed by the heirs of Reno, who was here in 1723,) by a company who lease out the right of mining for one-tenth of all the ore dug, and also the privilege of buying all the miner's ore at a given price. Notwithstanding these terms are considered hard by the miners, there appears to be a large number of them engaged, and some eight or ten smelting furnaces in operation, and two erecting for copper, which is also found here. Cobalt, manganese and nickel, are also found, but not worked. The land looks as poor as poverty, and shows but little cultivation, and that of a corresponding quality, and if I may judge from the appearance of the miserable little block log cabins, and squalid children, the whole population would be far better off if they were settled upon some of the thousands of uncultivated acres of rich prairie lying waste within a few days' journey of their present abode. Much of the lead ore here found, is what is termed "dry bone mineral," and is intimately mixed with the dirt overlying the blue ore. To prepare it for smelting, it is taken up dirt and all, and hauled in ox-carts to a stream, where, in a place fixed for the purpose, the dirt is washed out by a somewhat tedious operation. It also requires a different and hotter furnace to smelt it than the blue mineral. Until within five or six years it has been considered worthless. It now yields about 55 per cent of lead. What vast quantities of "dry bones" are still thrown away by farmers as worthless; and if they would not yield 55 per cent on the labor necessary to prepare them for manure, they are still too valuable to be thrown away.

After leaving this last mining tract, and passing over a few miles of equally poor land, we came to Frederickton, the county seat of Madison, around which is some excellent land, and I am sorry that I cannot apply the same term to its cultivation; but I must speak of things as they are, and not as I would like to see them. Here it was my intention to have taken a route leading into Arkansas, but finding that to do so I must make a long detour to the south-west, on account of impassable swamps that would lay between me and the Mississippi; I took the road to Jackson, and passed over about forty miles of as miserable country, as one seeking after such a tract, could wish to find. It is very hilly, some of which are covered with pitch pine, and only along the banks of the streams are found a few settlers, who with few exceptions, it may be said, rather stay than live. After passing a long, lonely road, from the few houses upon which, it seemed as though the inhabitants had died or run away, I arrived long after dark, at a place where I had been told I should find the only "house of entertainment" upon the road.

"And would'nt I like something warm and good for supper?" asked my landlady—I certainly should—and it length it came. Oh ye epicureans, what a treat! Wild turkey and venison, say you—a right new country supper? I can almost hear your lips smack now. But let me tell you, the supper consisted of seven small pieces of pork ribs for four persons, and a "power" of very coarse corn bread, and some muddy looking warm water called coffee, free from any adulteration of cream and sugar, and no other eatable thing on the table. And of this I eat, not having then seen the kitchen, which I afterwards did; and the negro cook. I didn't stop for breakfast, though I did for lodging, and slept quite comfortably under my two buffalo skins; but in the morning, although I stopped at the "stage-house" for breakfast, the only improvement was, that had I been compelled, for want of food to "kiss the cook," it would have been altogether more agreeable than the evening before. If possible, the house was worse. It is an old saying that "one half the world don't know how the other half live." I wish they did. I think they would be more contented and grumble less. And I wish the other half knew how they lived themselves; I think they would live better. In truth, I think it would be beneficial to us all to know a little more how the other half of the world live, and by comparing the situation of others by our own, try to improve.

But I must leave moralising over poor suppers and worse breakfasts, and jump over these poor hills and down along the banks of a stream whose waters look as though somebody had spilt their milk in them, and when within a mile of Jackson, the county seat of Cape Girardeau, we seem to strike an entirely different region of land; and the first good looking place after leaving the hills, I find belongs to a Mr. Criddle, an old Virginia tobacco planter, who is very successful here, and has of his last year crop now on hand, about 40,000 lbs. He, as well as many other subscribers, would like the Cultivator to give a price current of several leading articles in several eastern cities. Mr. Criddle's land is rolling, yellowish clayey soil, and produces hemp as well as tobacco.

The town of Jackson is on a hilly location, 12 miles from the river and contains several good buildings; the court-house, bank, &c., and has a land office, in one of the officers of which, Mr. Davis, I found a very warm friend of agricultural improvement, and through his assistance and information, some dozen of the spirited and intelligent gentlemen of this town became subscribers to the Cultivator. If the U. S. government had the same liberal views that this one of her officers has, they would not only graduate the public land to a grade that it would sell at, but much of the land that I have passed over between here and St. Louis, they would give away to whoever would take it, and be well rid of it at that. Indeed, as much as Missouri has been boasted of for richness of soil, it is a fact that many do not seem to be aware of, that the south half of the State contains vast tracts of mountainous barren soil that is scarcely inhabitable, and will undoubtedly so remain for a long time. True, it has great mineral wealth. The celebrated "iron mountain" lies only a few miles west of the route I traveled, and although only some 40 or 50 miles from the Missouri river, yet the impediments in the way of making an easy mode of transporting this richest of all iron ore in the known world, has hitherto kept it in the deep forest buried. And our government is not one to lend much aid to those who buy her lands, whether to improve the science of agriculture or develop mineral wealth. But let us jog on. Though before I leave Jackson, let me say that from experiment of several of the citizens, they find the valley land best for orchards, and old rotten wood the best manure. The hill land appears too dry in summer. I have noticed several orchards that were planted by the French, that are 40 or 50 years old—and don't look as though they had been trimmed in all that time. The question is often asked me, "should orchards be cultivated in other crops?" I answer yes, always, until the trees get big enough to take care of themselves. Grass is injurious to young trees; though for the matter of that, I don't think it is likely to injure them in this part of Missouri; there is not enough raised to injure any thing. Wheat still looks poor—has the appearance of having just come up.

From Jackson, I traveled the "dividing ridge;" all the waters to the north and west, instead of running toward the Missouri, run away from it and spread out in the swamps of Arkansas. After leaving the ridge about a dozen miles from Jackson, we have a swamp five miles across, through which the water run ten feet deep during the high water of last summer, not finding its way back again to the river until it had wended its way perhaps 200 miles through the swamps. This water leaves the river a few miles below Cape Girardeau, in consequence of the high bank that formerly kept it in its channel, having been washed away during the last season, proving very injurious to many who found themselves suddenly in possession of a new water power upon their farms—rather an uncontrollable one to be sure—that instead of serving to grind their corn, served them with notice that they could not have any to grind.

Across this swamp the road is partly through, not over, a very soft black soil, and partly over a raised causeway only 8 feet wide, and upon which, if two wagons were to meet, I suppose one would have to drive over the other, as there is but one chance in several miles to drive round.

From here to Benton, the land improves, and there are some good farms; those of Mr. Hutson and Mr. Allen, clerk of the county of Scott, being the best in appearance. Crops, corn and tobacco. Benton is a town that would not do much honor to the gentleman for whose honor it was named. \* \* \* Although it was night, I hurried past the town, and out to a farm house, where I felt much more comfortable. Here I found plenty of corn, and about 40 head of horses to consume it, and of a breed very common in this part of the State, which I wish I could give you an accurate idea of. They are generally light sorrel, with white face and feet, about 15 hands high, with legs bigger than a deer, that support a body in proportion to the legs. In winter they run in "the lot," and eat corn out of a hollow log, and in summer they run wherever they can to get away from the hordes of flies and mosquitoes that infest the swamp where they are sent to "range for themselves." The cattle in this part of the State are of the same order, and kept in the same manner. Now corn is an excellent rich grain to make pork, but if it is suitable food to manufacture bone and muscle from for young stock, then Professor Johnston and many others know nothing about science. It is however a fact that where the most corn is fed and little else, there I find the "scrub breed" in the highest state of scrubbiness.

At this last stopping place, I found some excellent sweet potatoes, the first vegetable that I have seen upon the table since I left St. Louis; and the owner assures me that the whole secret in keeping sweet potatoes is to keep them *dry and warm*. Mind, warm—not hot. He packs them in sun dried sand. This section of country still shows the marks of the earthquakes of 1811. In fact, there have been slight shocks every winter since—sometimes the earth cracks open and blows out quantities of sand.

Feb. 2, which, bear in mind, was the first Sunday, was a mild, clear, pleasant day, here in Missouri, a few miles west of the mouth of the Ohio river. How was it with you, reader?

This day in a 20 mile drive over mostly poor sandy black oak barrens, and across a small sandy level prairie, I passed through a couple of miles of Cypress swamp, along a road the like of which would



be a curiosity in any civilized country. I do not blame the inhabitants here for not making a better road, for if I may judge from their looks, they will soon need to travel but a short road, and that upon a conveyance that never jolts the rider. Although much of this county is very rich, and produces great crops of corn and some wheat, yet there is so much swamp that it is decidedly sickly.

On Monday, and in a dull, gloomy and rainy day, I had to drag through 14 miles more of swamp and overflowing land to reach the Missouri; and this is the only road by which half the inhabitants can reach Benton, their county seat. And over this same road, the emigrants from Kentucky, Tennessee, &c., going to Missouri and Arkansas, have to drag their loads of "plunder." I met many of them in wagons, in North Carolina carts, and on pack horses—the latter being generally packed with a most liberal supply of children and their mothers—"I reckon"—and as it "takes all sorts of folks to make a world," I am constrained to think that some of those I met are some of the "all sorts." "The ladies" in particular, riding in a very primitive way, such as was common before the invention of side-saddles, looked a good deal "sorter like" the coarse filling with which the great western web of wilderness is woven.

After a toilsome day's work of 18 miles, I was under the necessity of stopping 2 miles short of the ferry at the "iron banks," where I was to cross the Missouri. It had been my intention to have gone from Benton to New Madrid, by which I should have avoided these 16 miles of swamp, but I learned that if I crossed at New Madrid, that I should be caught in a trap in a district of country lying between there and Memphis, that is known as the "shakes," from having been shaken by earthquakes into sundry very uninteresting goose ponds. And from New Madrid down on the Arkansas side to opposite Memphis, there is "no road nor nothing." The only good highway—high enough sometimes—in the country, is the Missouri, but not a very good carriage road.

#### WHEAT CULTURE.

At one of the weekly agricultural meetings held during the past winter, the subject of discussion was the culture of wheat. Mr. McVEAN, member of the Assembly from Monroe county, made some very interesting and valuable remarks, which, at our request, he has furnished us for publication.

In offering a few remarks, said Mr. McVEAN, on the cultivation of wheat, I deem it most proper,—deferring the minor details of special cultivation, manures, diseases, and different varieties,—to introduce the subject by an exposition of the general principles and circumstances of soil, natural adaptation and climate, which will ever control the production of this most important crop.

An examination of the geological map of the State, will at once and most readily indicate to the intelligent observer, what portions of the State are most naturally adapted to wheat.

First in value, and occupying a large surface, is the Onondaga salt group. The rocks of this group are sometimes denominated the gypseous limestone, or shales; connected with which, are the plaster quarries, the water lime, and the salines of the State. This group, as a whole, embraces the most natural and enduring wheat soil of the State. It includes, and extends from Grand Island eastward, narrowing to a point in the county of Seneca. Its soil is composed of diluvial swells, chiefly resulting from and based upon the limestone—a subsoil, susceptible of fertility at any depth, and which, with the substratum of lime rock, is adapted to absorb the superabundant moisture. Hard water, a prevalent growth of oak timber, also upon much of its southern line a comparative absence of vegetable accumulation, and often of timber, consequent upon the annual burning of its natural product the opening grass, characterize this group. With a surface at once beautiful and accessible, few portions of the State presented a more unpromising *appearance of soil* to the first settler. Its unsurpassed and permanent value has been demonstrated by time and experience, and it is due to the mineral character of its soil, and the fertility and adaptation of the subsoil.

Although I have dwelt on this group more at large, because of its natural peculiarities, I am far from claiming for it exclusive natural adaptation to wheat; and only mean to say that it is more generally and permanently so adapted than any other, as a whole—that as a whole, it is more certain and enduring; and better resists every unfavorable vicissitude of season, climate, or defective cultivation; and that under continued cultivation, there has been little, if any falling off, in its annual product of wheat, except when managed with great imprudence.

I am aware that there are large portions of superior wheat soil embraced in the collateral geological groups,

very much of which is but little, if at all, inferior to the above, in natural adaptation to wheat.

Of these, extending north to lake Ontario, are the Niagara, Clinton and Medina groups; and towards the south, the Helderberg, Hamilton, and of the Chemung group, more or less of the northern portion, according to the extent of the northern lime drift; for it is an important fact that the diluvial current from the north, has conveyed and intermixed beneficially, the rock of each of these groups with all the others; conveying the fertilizing lime far south of the actual existence of the rock, in place. These various groups contain collectively a very large portion, perhaps one-fourth, and the most valuable soil of the State.

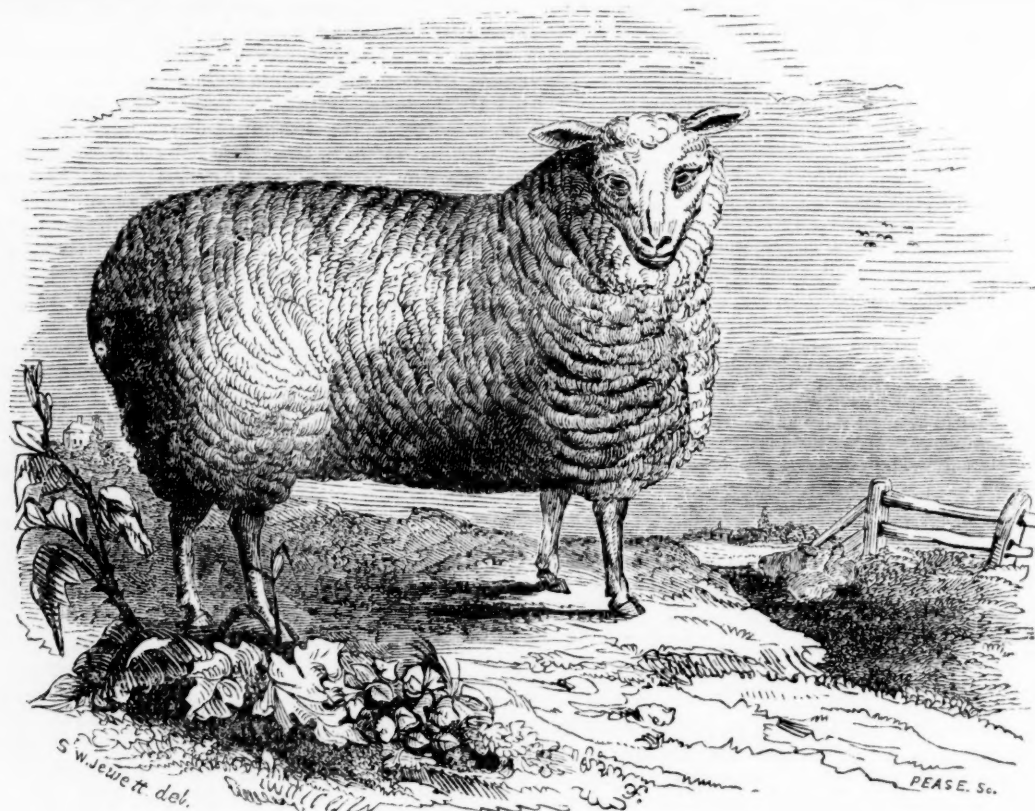
When the important question arises, where have occurred, and to what causes are due, the evident and conceded diminution of the wheat crop of the State? it will be found that it has occurred chiefly, in the last mentioned groups; and generally in the ratio of their distance from the first; owing, in some instances, to the deficiency of lime, deficient mineral qualities, and excess of vegetable matter and humus in the soil; very frequently to the too level and wet surface; but more specially and injuriously, to the tenacity and imperfection of the subsoil; resisting the escape of the superabundant moisture, whereby large surfaces are often supersaturated with water; inducing winter kill, debility, and various diseases of the plant, especially under the action of sudden and extreme frost, or heat and drouth. Collectively, these results become more manifest and injurious as the soil has been retained under long continued cultivation, so that only in the most favorable seasons can a full crop be realized in much of these soils; and in these have occurred the principal falling off in the wheat product of the State.

As there are large portions of soil thus circumstanced, in the wheat region of the State, and especially in the last named groups, it follows, if the premises are correct, that in no way can the area of wheat growing be so advantageously extended, in no way can capital and means be so profitably applied, as in improving and adapting these lands, by open and thorough draining, where the mineral qualities of the soil are in other respects proper. It is an indisputable fact, that very large surfaces under cultivation, scarcely yield a remunerating return, from the causes here indicated.

In further illustration, and in order to a more comprehensive view of the whole subject as connected with the above general principles, I desire to remark briefly upon the influence of climate upon the production of wheat, as I am not aware that the importance of the subject is generally appreciated.

Perhaps there is not on earth a better wheat soil, than is to be found in New-York; so far as the natural capability of the soil is concerned; and yet it is only when the most favorable circumstances of season and temperature combine with a proper condition of the soil, that we obtain products approaching those of Great Britain, from lands under no better cultivation, and inferior in natural adaptation to ours. The cause of this is to be found in the excessive character of our climate. Our growing crop has to surmount the extreme severity of our winter, and the more injurious and frequent spring frosts, acting upon a wet surface, producing what is called winter kill. The succeeding heat and drouth, acting with sudden change on the same wet surface, upon a plant flourishing only in a dry soil, and naturally incapable of resisting these adverse conditions. And finally, encountering the excessive heats of summer, (often in connection with moisture,) stimulating the plant to premature and diseased ripeness. Or, if the foliage is very dense, enfeebling and lodging it, so that the grain is deficient in proportion to the straw. It is a frequent occurrence, that the crop is heavier than can be carried to profitable maturity, under the influence of our climate; and practical farmers have long since learned that crops of a medium weight are generally the most profitable.

These influences of climate apply not only to this State, but with more or less injurious force, to all the United States, in one extreme or the other of heat or cold; and it is probable, that in the south-western States of the Union, the cultivation of wheat is limited, more



LEICESTER EWE—(Fig. 61.)

The above is a good portrait of a Leicester ewe, about one year old, belonging to PARIS FLETCHER, Esq. of Bridport, Vermont. She is descended from the stock of Mr. S. Norton, of Greenwich, N. Y. She is a large, well formed, and very heavy fleeced animal, and will, in the opinion of competent judges, give at least eight pounds of washed wool, at her first shearing. Mr. Fletcher has at present but a few sheep of this blood, but those he has, have proved so valuable, that he is determined to increase the number. He has a fine and very neatly managed farm, well calculated for supporting the finest cattle and sheep.

by the influences of climate, than by imperfections of soil.

In accordance with the above principles, and for the reasons assigned, it will be always practicable in equal, or even inferior conditions of the soil, to raise heavier crops, where the climate is more temperate and uniform; for the reason, in addition to those stated, that the crop occupies the soil a much longer time in arriving at maturity, and is also less subject to the adverse vicissitudes and influences alluded to. This is believed to be the case in some parts of Europe and in Great Britain, in which last, the crop generally occupies the soil, in a growing state, excluding the fall and winter, from the first of March to the middle of August; but doubtless its insular position has a favorable influence. In such climates also, it is more practicable, for the same reasons, to carry down the cultivation of wheat, to soils of inferior natural adaptation.

As the influence of climate is a fixed condition, and little subject to human agency, our alternative is to adapt our soil to the climate; and this we may do, chiefly, by laying the land dry, and obviating on a large extent of our soil, the injurious effects of superabundant moisture.

In clearing new land, the importance and economy of retaining, or even planting, at proper intervals, narrow belts of timber, as protection against the winter winds, will engage the attention of practical men. The white oak, which retains its leaves through the winter, is admirably suited for this purpose, and indigenous to the soil.

In continuation, it may be remarked, that the winter frost, and the heat and drouth of our summers, while offering superior advantages for cultivating and subduing the fallows, affect injuriously at the same time the growing crop, especially in wet and heavy soils; urging their drainage also from the consideration that they are afterwards more easily and seasonably tilled, and more productive of all other crops as well as wheat.

The additional conclusions resulting from these gene-

ral views and principles, are—that the first requisite, in the cultivation of wheat, is to obtain a good soil—that a good soil is one that abounds in lime, is clean and dry, and right in the mixture and quality of its mineral matter, including fertility and absorbent qualities of the subsoil—that a soil containing vegetable fibre or humus in excess produces much straw and little grain, and that consequently alluvial soils are not well adapted to wheat except when naturally overlaid by a proper mixture of the neighboring upland minerals—that there is much unprofitable application of labor and capital, because of non-conformity to the natural laws of soil and climate—that the cultivation of wheat may be profitably continued or extended on large portions of our land, by adapting the soil to the climate, and thus to the cultivation of wheat, on lands that are too level or wet, provided the mineral qualities of the soil are proper in other respects.

I would finally offer the suggestion to practical men, that as good wheat soils are well adapted to the production of nutritious pasturage, it will be found most profitable at the relative prices of products and labor, to renovate the soil to a greater extent than is now practiced, by rendering pasturage accessory to the cultivation of wheat, in preference to costly or artificial manures, beyond a judicious economy and application of those that accumulate on the farm; and that lands not natural to wheat will be most profitably applied to other crops.

**CELERY FOR DUCKS.**—A writer in the Buffalo National Pilot, says—"The common duck of the poultry yard, if fed—while fattening—copiously upon the tops of the celery plant, will attain a juiciness and a flavor that must call forth unqualified approbation from every epicure. It is the wild celery plant that gives peculiarity of enchantment to the canvass-back, and the common celery top will add a charm to the duck of the yard, that cannot be conceived. You cannot make a tame bird equal one with the wild flavor of freedom and foreign travel, but still you can refine on poultry."



## GRADE STOCK.

The attention of the public has often been called to herds of *pure bred* cattle, in different parts of the country, and their pedigrees given to the readers of agricultural papers, in such a manner as to add greatly to their reputation in public estimation. We perhaps think as much of pedigree as any one, and would be glad if every stock grower would keep an exact register of all his stock, with their origin, &c. Notwithstanding these views, we think that many of our best herds of stock have been overlooked, and their merits not duly appreciated, simply for the reason that an exact pedigree cannot be given to the public. If we mistake not, some of the best cows for milk of which we have record, have been produced by a cross between pure bulls of some of our best breeds, and the common cows of the country. Indeed, we have sometimes thought, where the object is to raise cows for the dairy mainly, no better course can be adopted, than to select from our best common cows, and breed to a bull of some one of the improved breeds; and although we might have a choice between the different breeds, we would not hesitate to commence with a bull of either, rather than rely entirely on native stock.

One of the best herds of grade cattle, and particularly of grade cows, with which we have ever been acquainted, was raised by Mr. F. INGERSALL, of Vernon, Oneida co. This stock, about thirty in number, was last fall sold at auction, (the owner having previously sold his farm,) so that nearly all have passed into other hands, and are now owned by different individuals, mainly in Oneida co. Four or five individuals only have been retained, from the choicest of his stock.

Of the origin of this stock, we cannot speak with entire certainty. They are, however, a cross between the Devons from the stock of Messrs. Hurlburt, of Connecticut, and a race of cattle which have for years gone by the name of the Sweet breed; probably from the fact that a gentleman of that name, in Onondaga co., bred up a fine stock of cattle; but of their pedigree, we are not now informed. Probably there are persons in the counties of Onondaga and Cortland who can give some information in regard to this race of cattle.

Several of the heifers raised by Mr. Ingersoll have proved extraordinary milkers, and fortunately we have here what is too often neglected, exact accounts of the quantity of milk in pounds, given by several of these for many days in succession. From the records of the Oneida Co. Ag. Society, we glean the following facts:

"Nellee," four years old last spring, came in at two years old, and gave an average of a fraction over forty pounds of milk per day, for fourteen days in succession, commencing 1st June, 1842. In 1843, when three years old, she gave for thirty days in succession, commencing May 15th, forty-four pounds four ounces per day. In the summer of 1844, again commenced weighing her milk, but after a few days, owing to a temporary injury, the account was discontinued. The average for the four days it was weighed, was fifty-one pounds.

This cow has taken the first premium in the class in which she was exhibited, for four years in succession, at the Oneida Co. Ag. Fair, where the competition was by no means limited, and where she has had to compete with many of the best animals in this section of the State.

"Blossom," own sister to Nellee, three years old last spring, also came in at two years old, and has proved scarcely inferior to Nellee as a milker. She gave at two years old an average of forty pounds per day, for seven days in succession; and in 1844, at three years old, forty-three pounds and thirteen ounces per day, for the same time. She also has received three first premiums, with spirited competition.

Several others from the same stock have nearly equalled these; and as a herd, they have perhaps seldom been excelled for dairy purposes. Nothing but grass has ever been fed in summer, and never more than four quarts of bran per day in winter.

These facts are given, because we have here exactness and figures instead of guess work, as is too often the case. It is proper to remark, that the milk is of excel-

lent quality; but as they have been kept in a dairy for making cheese, their milk could not be conveniently set for butter separate from the rest of the dairy. These animals are three-fourths Devon, and the remainder from the Sweet stock spoken of above.

To individuals who have bred such animals, and who have taken pains to furnish exact data when exhibited at our Cattle Shows, the public are indebted for an example well worthy of imitation. Shall we not hear from other herds equally successful? "Nellee," spoken of above, is now owned by the writer, who considers her one of the best milkers which has come under his notice; but from the fact that she is kept as a family cow, he will be unable to continue the experiments as he would desire, and especially to test her qualities for butter making. The mother of these animals, "Cherry," is also in our hands, and shows good evidence of dairy qualities, as well as proof in her calves of her value as a breeder.

Rome, N. Y., 1845.

E. COMSTOCK.

## McCORMICK'S REAPING MACHINE.

L. TUCKER, Esq.—Being a subscriber to your valuable and extensively circulated journal, not having troubled you hitherto with communications of this or any other sort, and not having observed much notice taken in the Cultivator of "McCormick's Virginia Reaper," I have supposed it might not be uninteresting to the readers of the same, nor unacceptable to you, to give some account of what it is doing here in the "far west."

I am not a practical farmer as yet, but I expect to be one soon. I have long felt a deep and lively interest in the agricultural prosperity of our common country, and have acted some humble part towards promoting this great cause, within the limited sphere of my influence. In this age of improvement, nothing has come under my observation, which promises greater benefit to the farming community, than does this most valuable invention, the Virginia Reaper. After hazarding this opinion, be not surprised when I say, that I have not yet, even witnessed the operation of the machine in the field. I rely mainly upon the HUNDREDS of gentlemen, (many of them personally and intimately known to me,) who during the last three or four years, have in my native State, Virginia, borne testimony of the most conclusive character to the fact. Many of them, as I have seen, after trying one machine through a harvest, stated that it had paid for itself, and supported their statements with orders for additional machines. This was the case with a brother-in-law of mine, Wm. Galt, Esq. of Glenarvon, Fluvanna Co. Va.

It is worthy of remark too, that this machine has not been brought forward and introduced on the humbugging plan. Although invented and publicly exhibited in operation in the harvest of 1831, (two years before Hussey's machine was invented,) as appears from a letter published by Mr. McCormick in the May number of the Mechanic's Magazine for 1834, he (McCormick,) did not attempt to introduce it until the year 1840; since which time, it has been rapidly working its way to public favor in Virginia. It had not been taken out of that State until last harvest, when it was introduced into the western part of New-York, into Michigan, Wisconsin, Illinois and Missouri, with the most signal success. A machine was also sent to this State, but arrived too late for harvest: it was exhibited at the annual fair of our County Agricultural Society, and received a certificate and special report from the committee on Agricultural Implements.

McCormick's Reaper, is now, I understand, being manufactured in the western part of New-York, (by Backus, Fitch & Co. at Brockport, in Monroe county,) in Michigan, Wisconsin, and Missouri, and I learn from Mr. A. C. Brown of this city, one of the most extensive machine builders in the west, that he will have at least one hundred and fifty machines manufactured for the ensuing harvest, for which he is receiving orders by almost every mail. Twenty-five orders have been received by him from a single county in the State of Indiana.

The terms too, upon which the Reaper is offered, are at once generous and confiding, and bespeak a favorable consideration from the agricultural community. It is warranted to cut fifteen acres per day with ease, (light

two horse draft,) to save an average of a bushel of wheat to the acre which would be lost by ordinary cradling, and to be strong and durable—not subject to get out of order,” and is sold on a credit, giving time and opportunity to test it before payment is made, at the low price of one hundred dollars.

Of the large number of certificates from Virginia, I herein enclose three or four, which it might be well to append to this, if you can allow it so much space.

Very respectfully, yours, WM. H. H. TAYLOR.  
Post Office, Cincinnati, May 16, 1845.

We give the substance of the certificates which accompanied the above:

Mr. E. FLETCHER, Lynchburg, Va. says—“During wheat and oat harvest I used it some fifteen days without any difficulty. It cut uniformly, clean, and well, on an average, without pushing, from fourteen to sixteen acres a day. One day, when a little more activity was used, it cut twenty acres. Where the wheat or oats were tangled and fallen down, with a little care it cut and saved the grain admirably well. Many of the best farmers in the neighborhood of my plantation, near Amherst Court-House, came to see its performance; all were highly gratified, and many would linger and follow it round the field to admire and witness its neat, rapid and perfect performance. I think it would not be going too far to say that it is a perfect machine of the kind, and that no farmer whose plantation is clear of stumps and stones, (for it does not much matter that the land be rolling,) and raises wheat or oats to any extent, should throw by his reap-hoops and cradles, and make use of your Reaper to save his grain.”

Mr. ROBERT IVES of Oak Ridge, Va., says he was so well pleased with it, that he had ordered a second one.

Mr. WASHINGTON SWOAP of Augusta county, Va., says that “in cutting 100 acres of good wheat, when the labor and grain saved are fairly estimated, it will pay for itself.”

Mr. WM. GALT of Glenarvon, Va., says—“I have used it in cutting my low ground wheat, and it has performed to my entire satisfaction. I did not measure any one day’s cutting, but am perfectly convinced that it will do the work of not less than 10 cradles, and cuts the wheat very clean. I am so well satisfied with the performance of this, that I will take another machine from you for next harvest.”

#### PEACH TREES, CHERRY TREES, &c.

MR. TUCKER—If the following suggestions, relative to the cultivation of the peach tree, as well as some other trees, should be thought worthy of a place in the Cultivator, others may receive the same benefit which the writer has, from the method here suggested.

The seedlings of the peach are found in almost every garden; and, in too many, they are left to take their chance to live or die, according to circumstances. If a few of these are not destroyed by the hoe, as incumbrances, and a few are permitted to escape, the cold winters of the North hasten on to complete the work of destruction, by killing down a large proportion of the growth.

From his own experiments, the writer can recommend the following method of obtaining and preserving these precious trees: he gathers all the stones that come in his way in peach time, and in the autumn wraps them in a paper or rag, and buries them a few inches in the ground, in any convenient place. Over them he lays a flat stone to denote their position and to preserve them from the digging of ferrets. As the warm weather approaches in the spring, he uncovers them and finds them in a state easily to be cracked. The seed is then taken from the shell, and planted in such places as are convenient for their cultivation. They will then come forward early, and furnish a growth according to soil and care bestowed.

Then, to preserve them in their entire growth from the winter’s cold, each tree is in the fall taken up, with such care as to preserve, if possible, every fibrous root, and placed in a cellar for the winter, with common

garden earth thrown over their roots. Here they stand protected, fresh and green, till spring, with not a limb or bud injured by the cold. As the season for transplanting comes on, they are easily transplanted in any place selected for their future location.

The hint to this method of preservation, was derived from the experience of the writer in the winter preservation of the mulberry.

The cherry, apple, pear, &c., though not killed by winter, may be greatly benefitted by this kind treatment, while seedlings.

In mellow soils, the labor is a mere trifle, with those who learn to preserve their trees. But to do the thing right, care should be taken not to pull up the trees by a force which will leave half their best roots in the ground. Let the ground be thoroughly loosened by an iron bar, till every root may be obtained. No spade or shovel should be used in this work, inasmuch as either of these tools will cut off many of the best and most fibrous parts of the roots. Much has been written about digging large holes for the reception of trees, and well written, too; but if all the roots of a tree are taken up with it, we can assure him who transplants it, that he will have no small trench to dig. No tree should be transplanted without its roots, unless you wish to be in doubt two years whether or not “it will make a live of it.” For this reason, the younger the tree to be transplanted, the better, because you can secure a greater proportion of its roots. Some people enter a nursery and select the largest trees; whereas, they would get fruit sooner by selecting only those whose roots they could carry with them. Long roots must have, and short roots need to have, wide holes.

I am well pleased with the management of peach trees, recommended by “C. D.,” in your June number; he is right. Too rapid a growth will subject any thing to a rapid decay. The multicaulis grown slowly in a poor soil, will resist the winter. The peach grown rapidly, usually loses half its growth by winter’s cold; and its liability to disease is strongly argued from the analogies of nature. I would only give it a good chance in a gravelly soil, decently cultivated. It is said that the red varieties are less liable to the disease than the yellow.

P.

Prospect, Ct., January 20, 1845.

#### SOWING CORN AND OATS FOR FODDER.

LUTHER TUCKER, Esq.—There is no way in which the writer spends a dollar per annum more satisfactorily than in subscribing to the Cultivator. It is not necessary a practical farmer should immediately act upon every suggested improvement in farm management. He has to examine whether the change recommended is suited to his location and circumstances; ever bearing in mind that the great object of the agriculturist, is the profitable occupation of his time and capital, and that he may even “buy gold too dear.”

With these considerations before him, the writer has for some years read the Cultivator with interest, and (although on a small farm,) derived considerable advantage from the hints of your more experienced correspondents.

During the past winter, by an economical arrangement of his stock yards, and occupying time unsuited to other purposes, he has been enabled to haul out upwards of 200 cart loads of manure more than in any previous year, which if brought from the neighboring city would have cost in the article and labor as many dollars; and in the management of his future crops he hopes to derive additional advantage.

If the limited experience of the writer should be worth a place in your journal, he proposes occasionally furnishing you with a short article without further introduction. And first, in reference to broad cast corn. Having sufficiently proved its value, he determined in the present year to secure a good supply for cutting green, or curing as occasion may require. On the 5th of April, he had an acre of ground plowed and harrowed, then spread over it 20 cart loads of cow manure mixed with the leaves used for bedding, and sowed four bushels of corn and one of oats, which with the manure, were well harrowed in,



and rolled; the seed came up well, and when about three inches high, had two bushels of plaster spread over it; it now gives every appearance for a fine crop. He has since sown a second acre in the same way, which is just above ground, and intends in a few weeks to provide a succession.

In preceding years the writer has been much troubled with his neighbor's pigeons and poultry. He this year soaked his corn 12 hours in the liquor from his cow stable, then drained it and well mixed it with plaster; this proved an effectual remedy, as even the few scattered grains left on the surface of the ground after harrowing, remain untouched.

The writer proposes in his next, to give the simple process by which he increased his stock of manure the past winter, and by which he hopes to secure a still further supply during the present year. WOODSIDE.

Maryland, May 12, 1845.

#### A FEW WORDS ON RAISING POULTRY.

MR. EDITOR—Every farmer who is acquainted with poultry-raising, know show extremely hard it is to raise young turkeys, and young poultry of any kind. In the early seasons of the year, fowls, ducks, and turkeys, are in the want of salt, more or less. Early in the spring of 1840, I got a few duck's eggs, of Judge Spencer, (the large white kind,) and raised five, (four ducks and one drake,) which I kept through the winter in a warm hen-house, and fed them with corn and Indian meal. They commenced laying very early; I had twelve turkeys at the same time; and as the hens commenced setting, I set them with duck's eggs, allowing from 10 to 15 eggs for each hen, and as fast as they came forth, I shut the hens in coops, and put the coops on the edge of a pond in the yard, where I kept my fowls; I allowed the young ducks to stay with the hen until they were three weeks old, and then took the hen from them, and allowed the ducks to remain; and in a few days, the hens commenced laying. In feeding, I commenced with Indian meal and white sea-sand, which contains salt sufficient for poultry; taking about one quart of meal to one gill of sand, and continued feeding that three times a week until they are completely feathered. I found that my ducks were larger and in better order than any of my neighbors. I did not lose a single one by sickness, and raised 90 from the 4 ducks; and by having hens sufficient, there can be 150 raised from 4 ducks. I would advise all farmers and poultry raisers to pursue the same method, and not allow their old ducks to hatch at all; and feed in the same way turkeys and chickens, and they will find that they will do better than on any other food.

BURGESS WANDS.

#### TRANSMUTATION OF GRAIN.

MR. EDITOR—In page 132, April No. Cultivator, I observe a communication signed J. Townsend, on "Transmutation of Grain." This writer scoffs at the opinion, and attempts to ridicule the idea, of wheat turning to chess; but without, as I can perceive, giving any argument, or reason to sustain the contrary opinion.

Now I profess to have no particular belief either way. But I propose to state a few facts, and Mr. Townsend may work out the case either by argument, or through his "fulling mill," at his own convenience.

When you published the Genesee Farmer, say a dozen years ago, there was a long, and a very able controversy carried on for several months in that paper, by several of the most distinguished wheat growers in western New-York, *pro* and *con*, on the subject of transmutation. The result was a *drawn* battle; neither party convinced to the contrary of the opinion which he first advanced. Scientific men were among those engaged on both sides, and all the science they possessed was brought to bear on the subject. After all, it was not settled that science, as it is called, was exactly *right* in its *first* principles, although no one has a more profound respect for that authority, apparently, than both parties engaged in the controversy. In it I took no part, being neither a wheat-

grower nor a professor of any science. But to the facts in question:

It was proved, and it can be proved again, that a field of new ground just cleared from the forest and sown *well, uniformly and plentifully* in its first crop, with wheat, in which one kernel of chess could not be detected in a hundred of wheat, produced chess almost altogether, in the swails and low places, and under the fences, where the snow and water lay an uncommon length of time: so too, in places where geese had run over and fed on the early growth in the spring. The same with sheep, in some instances. Where the chess did not grow, the wheat was fine and clean, hardly a stalk of chess to be discovered. It was also proved, that different fields had been sowed with the same seed, where no chess had been seen for years before, and parts of some were chessy, and the others not at all. And these same facts, and others quite as strong, can be proved, in numerous instances and in different sections of the United States, any day, in a Court of Justice, by as intelligent, experienced, and "sensible" farmers and wheat-growers as can be found, although they never served apprenticeship at the "cloth-dressing business;" and I pledge myself ready to prove these facts, when this writer will agree to pay one half the expense of taking the testimony, which won't at all events be much. †

The late Judge Buel—certainly no mean authority—in reply to a question I once asked him, what, after all the arguments on the subject, was the conclusion of his mind upon it? replied, "that after a long observation of the facts and theories which had been produced, he was forced to believe in the doctrine of *transmutation*." ‡

This is all I have to say. I shall hold no argument with any one in this matter: but I certainly think that ridicule, and that not of the highest order, is not the way to put down this doctrine of transmutation.

L. F. A.

#### NOTES BY THE EDITOR.

\* This may have been the case as regards the writers in the controversy alluded to; but not so with those who read it. We know many farmers who believed fully in the change of wheat into chess, who were converted to the truth by this discussion. They reasoned in this way: If, as is said, chess only grows from its own seed, the same as other weeds, we can eradicate it entirely from our farms. They tried the experiment—destroyed all the chess on their farms, and did not permit even a kernel of it to be sowed with their wheat. The consequence was, what might have been easily foretold—this pest was no longer found on their premises. For several reported instances of this kind, our correspondent is referred to the old Genesee Farmer, and to the first series of the Cultivator.

† Suppose the facts here stated, were sworn to in every Court of Justice in the country, would it afford any evidence that the wheat had turned to chess? That no wheat grew on the low wet places, or where it had been eaten off by geese or sheep, would prove, we should think, and that most conclusively, that the wheat in these places had been killed by the "snow and water," and "geese and sheep;" but it would no more prove that the wheat turned to chess, than that it turned to the other weeds and grasses which sprung up in those wet places where the wheat was killed.

‡ That Judge Buel came to this conclusion, upon hearsay evidence, is undoubtedly true. He once remarked to us, that the statements of Gideon Ramsdel, in our then paper, the Genesee Farmer, had gone farther than all other testimony, to convince him that the change of wheat to chess might take place. Now it so happens, that Mr. Ramsdel, long since, convinced himself that he was mistaken in a part of his statements; and we have little doubt that his experience has since convinced him that he was equally mistaken in supposing that wheat would, under any circumstances, turn to chess.

COMPOUND FOR SMEARING SHEEP, AND CURE FOR FOOT ROT.—SOLOMON HOXIE, Leonardsville, N. Y., sends the following recipes, which he says he has used for several years with advantage. "Immediately after shearing, I make the following compound, viz. 25 lbs. grease, one pint tar, boiled and well stirred together until nearly cold; then stir in two pounds sulphur, then rub the sheep with it, commencing at the head and follow along the back to the roots of the tail; this I have found to protect the sheep from the cold storms and also to kill ticks, &c

"The following I have found an almost sure remedy for the foot rot, viz: 1 part Barbadoes tar, two parts spirits of turpentine, thickened with sulphur to the consistency of common paint; pair and clean the sheep's feet well, and rub in the compound, and one or two applications are almost a sure cure."



ALBANY, JUNE, 1845.

## TO CORRESPONDENTS.

SINCE our last, communications have been received from T. Fountain, E. N. Horsford, A. Farmer, T. J. Lewis, S. Hoxie, C. Waters, J. R. Blair, Solon Robinson, S. W. Jewett, H. Cooke, Experiment, Woodside, J. Plocker, J. Gotham, A. Subscriber, A. H. Halleck, K., B. Wands, J. P. Norton, W. H. H. Taylor, W. Jennison.

We are indebted to Hon. WM. YOUNG, Halifax, for copies of the 3d and 4th Reports of the Central Agricultural Board of Nova Scotia for 1844 and 1845—To Rev. A. WHYTE, for copy of Carolina Planter, containing his Address and other proceedings of the Indian Land Ag. Society, S. C.—To LEA & BLANCHARD, publishers, Philadelphia, for the 1st and 2d volumes of the "Narrative of the Exploring Expedition," and "Clater on Diseases of Horses," &c.—To GREELY & McELRATH, publishers, New-York, for Part II. of Lardner's Lectures—To F. KNIGHT, publisher, Washington City, for a copy of "Fac Similes of Washington's Letters on Agriculture"—To (we presume) W. W. W. BOWIE, Esq. for the Proceedings of the Prince George's Ag. Society, Md.—To L. DURAND, Derby, Ct. for Pine Apple Melon Seeds—To BENJ. BREWSTER, Montreal, for a cask of the Seed Corn, noticed in our Jan. number, which we have distributed to several counties, and which we have no doubt will be found a valuable acquisition to this section—To JOSEPH WALTON, Esq. St. Andrews, New-Brunswick, for a barrel of Potatoes, including the "Howards," "White Blue Noses," "Black Apples," and "Red Apples." They are beautiful samples, and shall have a fair trial. All these gentlemen will please accept our thanks for their favors, which it will give us pleasure to reciprocate should an opportunity occur.

**TRIAL OF THE CENTRE-DRAFT PLOWS.**—The report of the Committee, under whose supervision this trial was made, was received too late for insertion in the present number, and we are therefore under the necessity of postponing it till our next.

## MONTHLY NOTICES.

We would remind our readers that Mr. PRENTICE's great sale of pure bred Improved Short Horned Durhams, is to take place at Mount Hope, near this city, on Wednesday the 25th of this month. For Catalogue of Animals to be sold, see our May number.

**FRANKLIN COLLEGE.**—We are rejoiced to hear that this Agricultural Institution is in successful operation. Though opened only in January last, it has now upwards of eighty students. We make the following extract from a private letter from our friend T. FANNING, the originator and head of this Institution, and congratulate him upon the success with which his indefatigable and well-directed labors have been attended. Mr. F. says—"Our Agricultural College continues to flourish, and every day's experience confirms me in my long cherished opinion that mental culture can be connected with physical and moral education. We have eighty students, and enough applications to make one hundred. I will not trouble you with details; but I rejoice to have it in my power to inform you that the success in every department is better than I anticipated."

**CHEVIOT SHEEP, &c.**—Col. T. J. CARMICHAEL, recently of Westchester county, in this State, passed through this city last week on his way to Rock Lake, Jefferson county, Wisconsin, where he is making preparations to enter into the wool-growing business on a large scale. He visited the western country last summer, and selected his lands, and made his preparations to receive his flocks this summer. He commences opera-

tions with about 2000, selected from the best flocks in Ohio, last year. Since his visit to the west, he has visited England and Scotland, for the purpose of ascertaining by personal observation, whether any of the foreign breeds of sheep there bred, would be likely to prove more profitable, in his situation, than those to be obtained in this country. After a careful examination into the matter, he made choice of the Cheviot sheep of Scotland, on account of their hardiness, the weight of their fleeces, and the value of the wool for combing purposes. He brought home with him thirteen of this breed of sheep, five shepherd's dogs, and a Scotch shepherd—all of whom are now on their way to Wisconsin. We have no personal acquaintance with the Cheviot sheep, but from the fact of their occupying some of the bleakest and most exposed situations in Scotland, and being there admitted to be the most hardy of all the varieties belonging to the British islands, excepting the Black-faced mountain sheep, we have no doubt they will prove valuable in this country, particularly where hardiness and vigor of constitution are so requisite as they are in Wisconsin. The mutton of these sheep is considered equal to any in the English market.

**THE HORSE "BLACK HAWK."**—A cut and description of this horse, to which we would call particular attention, will be found in another column of our present number. Since Mr. Jewett's description was written, we have seen the animal, and feel bound to say, that in our opinion, his excellencies are by no means exaggerated. Neither does our cut, which was taken from Mr. Jewett's delineation, give in any degree too flattering an idea of the original. It is in general, a faithful portrait, though it fails to give some of the prominent characteristics of the horse as strikingly as could be desired. For instance, the cut represents the head too large, and it does not show that beautiful contour, bold and intelligent expression, which cannot fail to impress every one who views this noble animal. It is impossible also, to show by any art of the pencil, the hard, bony, flat, and sinewy legs, which peculiarly distinguish Black-Hawk. It is not our province to favor personal interests in particular—we desire to encourage only what is or may be generally useful; and in speaking approvingly of this horse, we cannot but feel that we are doing the country good service. More particularly of his qualities, or of the stock to which he belongs, we have not now room to remark—we shall have occasion, however, to speak more fully on the subject of horses in our future notes of a late trip to Vermont.

**Hon. H. L. ELLSWORTH.**—This gentleman has resigned his place as Commissioner of Patents, and gone to farming in Indiana. We are glad to learn, however, that at the request of the President and the new Commissioner of Patents, Mr. Ellsworth will continue his labors on the subject of agriculture; and now that he has more leisure, he will undoubtedly make these Reports, which have excited so much attention, far more valuable than heretofore.

**CREAM HILL SCHOOL.**—This school, under the direction of Messrs. S. W. and T. S. GOLD and T. R. DUTTON, is located at West-Cornwall, Ct., near the Housatonic Railroad. One object of the institution, is to give both scientific and practical instruction in agriculture and horticulture, embracing the most approved method of tillage, rearing of stock, cultivation of trees, the laying out of grounds, &c. &c. A portion of each day will be allotted to these objects. The farm on which the school is situated, consists of 200 acres, with convenient buildings, surrounded by a picturesque country scenery, in a location unrivalled for healthfulness. We are glad to see such schools increasing, and shall be glad to learn that they are well sustained, as they certainly ought to be.

Complete sets of "THE CULTIVATOR," well bound, can be obtained at J. W. COOK'S Agricultural Warehouse, Vicksburg, and of F. & J. BEAUMONT, booksellers, Natchez, Miss., by whom subscriptions for this paper will be received.

**EARLY PEACHES.**—Col. SUMMER, Editor of the South Carolinian, Columbia, says that he received on the 5th May, some beautiful Nutmeg Peaches, perfectly ripe, from Capt. Henry Lyons.



## FOREIGN ITEMS.

The latest accounts from England, represent the prospects for the grain crops as favorable. March was cold, and the fore part of April was dry, but timely showers came on the latter part of the month, and the weather the beginning of May was auspicious. Complaints are still made of the introduction of foreign live stock, "under Mr. Peel's famous tariff," and the British agriculturists are pronounced "as a body in a more depressed state, than has been the case for years past, showing the mischievous effects of the withdrawal of protection since 1842." A competition with the British farmers in the corn trade from abroad, particularly from the Baltic, is much feared, and it is said "there can be no doubt that during the summer supplies to an extent seriously to injure the English grower, will reach them." Importations of bread-stuffs are not expected from Holland or France, as they are dearer than in England, neither are they looked for from the Mediterranean ports. Respecting the inducements for shipments of flour from this country to England, the *Farmers' Magazine* says—"comparing quotations there, with the prices here, the encouragement to make consignments to Great Britain is not very great." The receipts from Canada, it is anticipated will "increase from year to year, as a stimulus has been given to the cultivation of wheat by the Canada Bill, which, however favorable to the colony, must prove extremely injurious to the British grower."

**ROTATION—THEORY OF VEGETABLE EXCREMENTS.**—Dr. Playfair, in his late lecture before the Royal Agricultural Society, remarked that rotation was not a means of *improving* the soil. The soil remained in the same state, as far as the plant was concerned, and the great advantage of it consisted in the fact that one crop could be grown while the soil was preparing for another. The theory of De Candolle, with regard to plants throwing out excrementitious matter injurious to themselves, and beneficial to other plants, was now generally exploded, and many facts were entirely opposed to it. Thus in Hungary, there was never a poisonous effect produced on the wheat crops, although in some districts, wheat had been sown in succession for centuries.

**FLOUR FROM WHEAT.**—The following table, interesting to farmers as well as to millers, shows the quantity of first, second, and third rate flour, produced from wheat of various weights per bushel, with the bran and waste. The numbers of parcels in the experiments tried, and the quantities of each, are given in the first and second columns.

Lots.	No. of bush.	Wt. per bu.	FLOUR.					Bran.	Waste.	Total.
			Fine.	2ds.	3ds.	Total.				
	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.	lbs.
4	480	56	.....	45.8	.....	45.8	9	1.2	56	
5	760	58	40	5.5	2.3	47.8	9	1.2	58	
8	1400	59	41	5.8	2.2	49	8.8	1.2	59	
7	1600	60	42.5	5.5	2.0	50	8.8	1.2	60	
15	2192	61	44	5.2	1.8	51	8.8	1.2	61	
7	1088	62	48.5	2.5	1.5	52.5	8.5	1.0	62	

**BIRDS vs. WIRE WORMS.**—A correspondent of the *Sporting Magazine* states that no fewer than 1225 of those destructive larvæ were taken from the crop of a hen pheasant in January last. This of course could have been only about one day's consumption. (That number could not have formed a mass much smaller than half a pint—said crop must have been closely packed. Could there have been a mistake of one figure?)

**BLACK LEG IN CALVES.**—We noticed sometime since in a Scottish paper, an article on rearing calves, in which it was stated that feeding them with oil-cake and turneps or potatoes, in winter, was deemed a sure preventive of the dreaded disease called *Black leg*. At a late meeting of a farmers' club in England, several members spoke of this disease, one of them stating that a large and excellent breeder effectually prevents it by cutting down to the veins of the foot and dividing them just before they branch off to each hoof; he divides the vein in every foot of the calf. Another member stated that he had frequently lost calves by black leg, but believed that by proper precaution, the disease may be prevented. He

puts a rowel in each calf, and gives each an ounce of saltpetre once in three weeks. Since adopting this course, he has not lost one. It seems that a healthy circulation of the blood is a great object aimed at, and this is much promoted by such kinds of food as keep the bowels properly open.

## ANSWERS TO INQUIRIES.

**"CLOCK PUMP."**—*A Farmer.*—We know nothing of such a pump as is inquired for—should feel obliged to any one who would furnish information in regard to it—the fixtures, cost, &c. But would it not be better to work the pump by wind? especially as it is designed for the prairies. A notice of a wind-mill for this purpose was given in our last vol. page 202. It is made by George Parker, Corrina, Penobscot county, Maine—the cost for a well, said to be twelve dollars.

**KIDNEY WORM IN SWINE.**—"*A Subscriber.*" (Greenville, S. C.) Lye of wood ashes, or soap-suds, given with food, generally counteracts the disease, if taken in season. Copperas is also recommended, together with slops strongly impregnated with salt and red pepper, at the same time rubbing the loins well with spirits of turpentine. Arsenic has been used in desperate cases, but we do not know the precise quantity proper for a dose, and as it is a dangerous remedy, should never be used but as a last resort.

**HARVESTING MACHINES.**—*J. C. N.* (Lake C. H. Ind.) We have never seen the operation of either of the machines you mention. Both Hussey's and McCormick's are probably good, but we cannot say whether either of them is used for cutting grass.

**SHEPHERDS AND SHEPHERD'S DOGS.**—*J. P. M.* Franklin, Tenn.—Shepherds could be had from this vicinity, and we presume dogs, also, might be had here. Those having them for sale, or knowing where they can be had, will confer a favor by stating the price, &c.

**CHEESE.**—*Mr. Thayer*, (Aurora, O.) We are not certain what kind of cheese you allude to. If any of our friends in Connecticut, where you suppose the article is made, can inform us in regard to a kind of cheese of eight to ten pounds weight, of particular value for shipping, they will confer a favor.

**SALT AND LYE FOR FRUIT TREES.**—*L. H. M.* (Bristol, Ct.)—The quantity of salt which it will do to put round a fruit-tree, depends a good deal on the size of the tree. If the tree is a foot through, we should not suppose it would hurt it to put round a quart. But we have had no experience in the matter. As to the strength of lye for washing fruit trees, we have seen recommended a pound of potash to two gallons of water. A lye of the same strength as near as could be ascertained, made from wood ashes, would probably answer as well.

**TOBACCO.**—"*A Subscriber,*" will find some information on the culture of this article on page 89 of our last volume.

*A. N., Westfield*, and others.—The person advertising, requires capital to the amount of some thousands of dollars.

**YALE LITERARY MAGAZINE.**—This is a periodical published under the direction of the students of Yale College, New-Haven, Ct., which has now reached its tenth volume. Judging from the numbers which we have seen, it is an interesting work, managed with an ability and judgment which does honor to its youthful conductors. The number for January contains a well-written article on agriculture. The same number has a beautiful engraving of Yale College Library, and also a graphic picture of "Yale College, and the College Chapel in 1786." Published by A. H. Maltby, \$2 per annum.

**INDIANA FARMER AND GARDENER.**—Agricultural publications appear to be rapidly increasing in the west. A new one has just reached us from Indianapolis, the name of which we here give. *Rev. H. W. BEECHER*, an able and interesting writer on horticulture, is to have the editorial charge of the paper, and it is published by S. V. B. Noel & Co., semi-monthly—16 pages 8 vo., at one dollar per annum.

## CUTTING AND CURING HAY.

From our notes of the discussion, on "the proper stage for cutting grasses, and the best modes of making hay," at the seventh Agricultural meeting in this city, we give the following:

Mr. BEMENT said he had formerly been in the habit of cutting timothy grass quite late. It was easier cured after it got pretty ripe. But he found in using hay thus cut, that it wanted substance, and he had ascertained that the best time for cutting was while the grass was in blossom. In making clover hay, he had adopted Judge Buel's plan. He thought it best not to expose it much to the sun. His practice was to cut it in the morning, let it lay till noon, and then cock it, and let it sweat for two or three days according to the state of the weather. On putting the hay in the barn, he had used about four quarts of salt to the ton. Hay thus managed came out in the spring very bright and sweet. In the ordinary way of curing clover hay, the best parts are wasted.

Mr. HOWARD was aware that there were different opinions as to the proper stage for cutting grass; but he thought the observance of certain principles might afford a guide in the case. For example, the stems of grasses were filled just before the formation of the seed, with a starchy or saccharine substance. In perfecting the seed, the stems were exhausted of this substance, it being consumed in forming seed. Now if the herbage is the object, the plant should be cut before the nutriment has passed from the stems. If seed is the object, the plant must of course be allowed to attain a good degree of maturity. Hay made from ripe grass may "go farther," or "spend better," as the argument is; and it is admitted that this may be true, for animals are less inclined to eat it; but this is no proof that it is more nutritive. He spoke of the different modes of curing hay, with nearly all which, he said, he had been acquainted. Clover hay was altogether better when cured in cock, than by any other mode he knew practiced. All hay was better for undergoing to some extent, a sweating in the cock. Coarse timothy was thus rendered much softer, and was less strawy and stiff, and every description of hay was less likely to be "mow burned."

Mr. BETTS was not in favor of mowing a great deal of grass while the dew is on. He was in the habit of spreading the swaths as soon as the ground was dry, and he always had it well cocked up before night. The next day, if the weather was good, he opened it again if it did not dry enough he put it together again; but his object was to get it so that it would do to put it in the barn. He was in favor of using a little salt with it. He had sometimes found his hay heat too much in the mow. From being hurried, he had occasionally put a load in the barn too green. To stop the heat and fermentation which had ensued in such cases, he had made holes in the hay with a crow-bar, and scattered in salt. In this way he had stopped the fermentation and saved his hay in very good order.

Mr. GARRETSON, of the Assembly, from Dutchess county, said he generally cut from 150 to 200 tons of hay per year—chiefly timothy and red-top. He generally began when the grass was in the blossom. His method was to cut in the morning, spread the swaths lightly, and in the afternoon put it in cocks. The next day, if the sun came out, it was again spread, and if made enough, put in the barn, with a little salt sprinkled on it. About three quarts of salt to the ton was as much as he used. There was danger of using too much. He had formerly used more salt, and was satisfied his animals, particularly sheep, had suffered by it. It occasioned scouring—and by keeping their bowels out of order for some time, they died. He usually got about two tons of hay to the acre. In the latter part of the season it would sometimes make enough in one day.

Mr. MACK always directed his men to make hay as rapidly as possible. He had often made it and put it in the barn in one day, and never had better hay. He was always particular to secure it from dew when it must be left over night. It is said by some who had much practice in making hay, that it is never injured from its own internal juice, but only from rain or dew.

Mr. SOTHAM did not like the plan of salting hay, neither did he like the hay that was made in one day. If it could be so made that it would take no hurt, in one day, it must have been too dry for good hay before it was cut, or else very light burden. He would as soon have good bright straw for cows or sheep, as timothy hay after it had gone to seed. He cuts clover when a part of it is in blossom and part in the head. Cuts all his grass early. It takes longer to make hay cut thus early, but for cows and sheep, especially, it was a great deal better. The objection to salting hay was, that animals were forced to eat salt whether they wanted it or not, and it made sheep scour. His hay came out of the barn of a bright green color, and his stock would fatten on it. There was another great advantage in cutting early—the roots retained their life and strength better, and the after feed and future crops were much more abundant. He did not like timothy for hay—he never saw it in England—the farmers there thought it was too coarse and wiry for stock. Rye grass made good hay—would yield in England two tons per acre. Pacey's was the best variety—red-top made good hay. He had tried sainfoin—it did not come up well—there was always a difficulty about it in this respect, because the seed was good only a short time—it could hardly be brought across the ocean and vegetate. If we could get it here, it would be very valuable, especially for dry lands. As to pasturing mowing lands, some land would not bear it—particularly if wet—but he fed his dry lands very close, in the fall, with cattle and sheep, and experienced no damage from it.

Judge CHEEVER said he would cut his clover in blossom, not sooner. He would let it take the sun one day, but not enough to have the leaf break off, then put it in small cocks and cure it, until by a few hours drying, by turning over and breaking the cocks, the fluids would be so far out of it that it may be housed without hurting. The length of time necessary to cure it will depend upon the state of the weather, and the larger or smaller growth of the crop. Upon this the farmer must exercise his judgment.

He would not cut timothy until it had passed out of the blossom. Professor Davy, in his Agricultural Chemistry, says that 64 parts of clover hay cut in blossom, produced 10 parts of nutritive matter, and the same taken in seed. Timothy, 10 parts in blossom, and 23 in seed. This in the timothy is probably too much; but that the nutritive matter in timothy improved after the fall of the blossom, he had no doubt. Red-top comes to maturity later, and he did not think there was much difference whether cut in blossom or soon after. He believed timothy cut in blossom would, pound for pound, produce more milk when fed to cows or sheep, than it would cut afterwards; but for horses and other stock, he thought it more nutritious to stand a little longer. It certainly improved in weight.

He preferred mowing his hay, as far as he could, when free from dews or water. He let the swaths take the sun a few hours, until the top got a little wilted or seared, before turning. It thus held up the greener parts when turned over and spread, and permitted the air to circulate under it; it also gave the ground between the swaths, time to dry, which was important in hastening the curing. In this way he avoided the necessity of turning the hay after being spread, which was one of the most tedious processes through which the hay had to be passed, and of course the most expensive. He never permitted his hay to take a dew when it had sun enough to wilt it considerably, if he could help it. The dew discolored it, and he had never been able to restore the fine fresh color afterwards. He preferred letting his hay stand over night in the cock. He could then better tell of its fitness to be housed. It is very easy to break up the cocks and give it more sun if necessary; and the slight fermentation or sweating in the cock, which is checked and dried off in carting, is a great preventive against heating in the mow. Hay heated in the mow is sure to be discolored. Some people insist that it is not injured for feeding, especially to cattle. It may be so. I know that flour, corn or oats, which have been heated until they are musty, are thought not so good. I do not know why hay should be.



On the approach of rain, I always put all the hay that has had any sun of consequence, into the cock. If the storm is a long one, it may turn yellow, so that it cannot be restored, but it will retain most of its nutritive matter and its weight, whereas if left spread out to take the rain, it loses both, and is much worse discolored. I never use salt upon my hay, but upon compulsion. When the weather is good, I dry my hay sufficiently to keep, and as soon as I can, I house it; but sooner than leave it out to take a storm, even in the cock, I would put it in a little short dried, and apply salt to save it, as I would sooner have it salted than musty.

Dr. LEE thought it the best way to mow grass after the dew was off—spread it, dry it as much as possible, and rake it into winrow. If it was dried enough, and it would frequently be so, he would load it from the winrow, and save the labor of cocking it up.

#### PASTURES.

Land which is best adapted to pasturage, we think should never be plowed. This rule is particularly applicable to moist grounds, and those situated on hill-sides and mountains. We have frequently noticed a great difference in the production of grass on hill-sides, owing entirely to one portion having been plowed, and the other portion not having been plowed. The grass on the unplowed part is always much the best. In many instances, it is almost impossible to use the plow on a hill-side, without rendering the ground liable to be washed and gullied by rains; but if it is sown with grass-seed without plowing, the numerous fibrous roots of the trees and shrubs, will hold the soil together till it becomes thoroughly netted together by the grass-roots.

The natural condition of land as it is cleared of the forest, is generally favorable to the growth of grasses, as may be seen by the readiness with which they come in and flourish; and we believe that no mixture or reversion of the soil can be made with any advantage, for the production of grass. Drains may be made if needed, to make the ground sufficiently dry. The use of the harrow, after the growth has been properly cleared off by the axe and mattock, will put the surface in a good state for the reception of clover and grass-seeds, or for a crop of small grain, if it should be deemed advisable to sow one. Should young trees, bushes or sprouts, from the stumps, spring up, let them be cut out with the mattock; and should the grass die out, or mosses come in, a sharp-toothed harrow drawn over the ground, and seed sown in August or first of September, with a dressing of plaster, compost of muck and ashes, or rotted manure, will bring on a fine sward of good herbage. On lands naturally adapted to the growth of grass, the use of top-dressing, or a re-sowing of seeds, will seldom be necessary, for under a judicious course of feeding, the pasturage, instead of declining, will actually improve for several years. The occasional use of a light, sharp harrow, may however, increase the growth of grass, by preventing the sward from becoming "bound."

It is very important to obtain the best grasses and herbage plants for pastures. In making a selection, due regard should be had to the adaptation of the different species to climates and localities. Some of our indigenous kinds are excellent, and perhaps best, their hardiness and nutritive qualities being considered. For the middle and northern States, one of the most valuable sorts is the *Poa pratensis*, sometimes called "Kentucky blue grass," the "spear grass" and "June grass" of the northern and eastern States. On rich soils, not too dry, particularly those of a calcareous (limestone) nature, its produce is remarkable. It starts very early in spring, and grows late in the fall, but being effected more by drouth than some other kinds, does not always grow as much in the middle of the summer, though from the great tenacity of life in the roots, it seldom dies. It propagates itself by tillering, or by many lateral roots, as well as by seed, so that it spreads rapidly, and as other grasses die out, it soon covers the whole ground. Its nutritive qualities are comparatively but little destroyed by frost, and on this account it is highly esteemed for winter pasturage, in sections where but little snow falls. By keeping the stock from fields well

set with this grass, so that it may make a good growth in the fall, excellent grazing is afforded to cattle and sheep during winter. Its leaves form a thick matted growth, the surface of which may be bleached a little by the frost, but the lower portion will be almost as fresh and green as corn, and will even in this condition fatten stock of any kind.

Another species of the same family as the above, and sometimes mistaken for it, is the *Poa compressa*, flat stalked meadow-grass, sometimes called "green-grass." It is more hardy, and is believed to be more nutritive than the *Poa pratensis*. It delights in warm loams, and is often very troublesome in the cultivation of wheat and other crops, and from the difficulty of killing it, it is generally considered a pest. Its produce is less than the before mentioned kind, but it is exceedingly nutritive, and much relished by cattle and sheep. Its stalk, even when the seed has ripened and fallen off, is quite green, and though it appears hard, animals always eat it greedily. It will grow in a colder atmosphere than any other grass we are acquainted with, is the first to start in the spring, the last to stop growing in the fall, and keeps greener than any other through the winter. For the advantage it affords as an early "bite" for sheep, particularly for nursing ewes, it might be an object to appropriate a suitable lot for it, which it would not be necessary to cultivate for other purposes.

Several species of the *Agrostis* family of grasses are indigenous to this country. The "red top," called in Pennsylvania and some other sections, "herds-grass," appears to be the *Agrostis vulgaris*, or "bent-grass" of the English books. In Massachusetts, there are cultivated two varieties generally known under the name of red top; one considerably larger and later in flowering than the other, and is better adapted to cold moist lands. The small kind is however held in great estimation for its nutritive qualities, especially for feeding working oxen, for which it is, in some districts, thought more valuable than any other grass. The large kind is generally most esteemed for pastures, as it is less affected by drouth and its growth is more constant through the whole season. On the whole, it is well worthy of cultivation as a grass for grazing.

Another species of *Agrostis* indigenous here, is closely allied to, if not identical with, the European "florin," *A. stolonifera*. It is a very nutritive grass, and is much relished by stock. It is, however, only adapted to particular locations. From its habit of extending itself by stolones or lateral roots, it is peculiarly valuable on loose spongy, or boggy soils, on which it forms a firm sod that may be trodden by sheep or light cattle with safety. It is also the best grass which can be used for sodding the sides of open ditches, or water-courses, which it does so effectually that the banks cannot wash, and are not liable to be broken; they presenting, when set with this grass, a beautiful smooth green turf, most agreeable to the eye.

*Phleum pratense*, "meadow cats-tail," "timothy," or the "herds-grass" of New-England, is much cultivated in this country for hay, of which it produces a great yield, and where the ground is rich and moist, it may be very profitably introduced with other grasses in pastures. In some sections it is pretty extensively used for this purpose. It is a native of this continent, and was brought into notice in England by Timothy Hudson about the year 1780, according to Loudon.

Of the clovers, there are two or more species indigenous to this country, viz., the white, or "Dutch clover," *Trifolium repens*, and a kind which we have not found in any botanical catalogue, called in the western part of the country, "buffalo clover." The latter is perennial, resembles the common white clover in the color of its blossoms and habit of growth, and in the height and size of its stem, is a medium between the white and the common red clover. The common white clover is usually much esteemed for pastures, combined with the grasses, but is thought not so valuable by itself, as it is deficient in quantity, and too much relaxes the bowels of animals when feeding on it.

There are a few grasses and herbage plants not commonly cultivated in this country, which it would be desirable to have introduced and fairly tried. The "orchard

grass," *Dactylis glomerata*, is grown in a few sections, but is not generally known. As a pasture grass, it is worthy of more general culture. It produces abundance of leaves, starts very quick after being eaten off, and grows very rapidly. It should be sown thickly, (three bushels seed per acre, is recommended by English writers,) to prevent its growing up too much in bunches or tussocks.

The perennial rye-grass, *Lolium perenne*, is recommended for sheep pastures. We have tried this grass, and think highly of it for this purpose. The meadow fox-tail, *Alopecurus pratensis*, is well suited to moist pastures, and in England is esteemed one of the best of grasses both for grazing and hay.

The sainfoin, *Hedysarum onobrychis*, is considered one of the most valuable herbage plants known in England. It belongs to the leguminosæ family, but is in many respects quite different from any of the clovers. It is said to grow spontaneously on the calcareous mountains of the middle and south of Europe. It flourishes well on dry soils, and by means of its long fibrous roots, is said to find moisture even in the driest seasons. It is much esteemed both for pasturage and hay, and is said to afford on some soils a greater amount of nutriment per acre, than any other plant grown for those purposes. It is also recommended for keeping the sides of hills from washing. The roots will live in the soil, and retain their vigor many years.

A species of clover called in England, meadow-clover, cow-clover, or cow-grass, *Trifolium medium*, is perennial, and is much esteemed in pastures. It resembles in appearance, the common biennial red clover, *T. pratense*, but the leaves are narrower, and it grows to a less height. It is very desirable that this plant should be tried in this country. "A poor sandy soil it is said, will produce a good crop of cow-clover, that would not produce half a crop of the common red clover."—London.

Several species of the *Trifolium* genus pass under the common name of *trefoil*. The most valuable of these is thought to be the French yellow trefoil, *Medicago lupulina*. It is perennial, or at least lives many years. It is well relished by stock, both in its green state, and when made into hay. It is thought of considerable consequence in pastures.

#### CUCUMBERS AND MELONS—PROTECTION AGAINST BUGS.

Cucumbers and melons for pickling, may be planted till the first of July. New land lately cleared from the forest, is best for vines, if it can be had; next to this, a piece which was the last year in sod and planted with corn or potatoes, is to be preferred. It should be of a medium state of richness and dryness, a better crop, so far as our experience goes, being more generally obtained from such land, than that which is extremely rich. Make the hills seven or eight feet apart. A very common error is to make them too close, so that the vines have not room enough, and they smother each other. Hog manure, that is pretty well rotted, or that which is in a green state, well mixed with muck and leached ashes, will do well. The manure of pigeons and hens is also excellent, but is very strong, and should be mixed with double its bulk of loam or muck. Dig the holes for the hills so deep that a peck at least of manure, may be put in without coming above the surface of the earth, level it off and plant the seed. To provide against the bugs and worms, it is best to plant a large quantity of seed. If there is twelve to fifteen plants to a hill while they are small, no injury will be done; but they should be thinned to no more than three, just before they begin to run, and have got well out of the way of insects. To keep off the bugs, millinet-boxes are the best preventives while the plants are small, and that is the time they are most likely to be injured. The boxes are cheap—made of pine boards six inches wide, merely nailed together square—the edge of the boards on two sides grooved—the millinet drawn over and fastened by tongues driven into the grooves. They should be large enough to fairly cover the hill without crowding. Plaster, coal ashes, or leached wood ashes, scattered over the plants

while the dew is on, have some tendency to keep the bugs from eating them, but are not altogether effectual preventives.

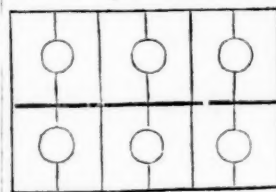
Several years ago we made trial of water in which hen dung had been soaked until the water fermented, for keeping off bugs from vines. An old hog-trough was carried to the piece, two or three shovels full of clean manure from the hen-roost thrown into it, with three or four gallons of water. It soon fermented, and the odor from it was very offensive. A half pint of this liquid was poured on each hill each alternate day. It kept off the bugs almost entirely, and made the vines grow astonishingly. They were melons, and produced the heaviest crop we ever saw.

#### CULTURE OF STRAWBERRIES.

The practice of placing flat stones under the branches of strawberries is frequently recommended. The object is to keep the fruit clean, and hasten the ripening and improve its flavor, by the radiation of heat from the stone. A writer in the *Gardener's Chronicle* recommends a very simple and cheap substitute for stones. He suggests that tile might be made of the form shown in the annexed cut,



[Fig. 62.]



[Fig. 63.]

that would answer well, look neat, and cost but little. It is advised that they be made about 12 inches square, preserving room for the average size of the stems. After a season, in preparing new beds, the runners might be placed at equal distances, so that the bed would be entirely covered by the tiles, as shown in fig. 63. A bed 40 feet by 6, would require but 500, and their cost would be but little, as they could be made by any brick maker. We should think it hardly proper for the tiles to lie on the ground the whole season, as they might sometimes keep the heat too much from the ground; but we should suppose they would answer a good purpose if placed round the plants, after the ground had been worked and got well warmed in the spring—they would keep the soil from drying up, and entirely prevent the growth of weeds and grass.

#### AGRICULTURE IN NOVA SCOTIA.

We have received the third and fourth Reports of the Central Board of Agriculture for Nova Scotia. It appears to be the duty of this Board to receive the reports of the local societies, and to submit in a general report of its own, a view of the operations of all. It appears that the number of local societies in the Province, is no less than thirty-eight, some of which have been in operation for several years. The Provincial Government has placed liberal sums of money at the disposal of the Central Board which have been annually distributed among the societies of the different sections, for the encouragement of agriculture, and the result seems generally to have been highly flattering. A decided improvement is seen in their modes of cultivation, which has of course been followed by better crops. Improved implements of husbandry have been introduced from Massachusetts, and in some instances from England and Scotland, some of which, especially the Centre Draft Plow of Messrs. Prouty & Mears, are spoken of as being greatly superior to those which had been in common use. Bulls of the Durham, Hereford, and Ayrshire breeds, have been imported, and their progeny are said to be evidently superior to the former stock; those from the Durham and Hereford bulls, in particular, are said to winter better than the common stock, are much more thrifty and better shaped. Sheep of the Dishley or Leicester, the South Down, and the Cheviot breeds have also been introduced, and are every where spoken of as succeeding well, and all are much esteemed, being decidedly more profitable than the common stock. The Berkshire swine have been quite generally tried, and in most cases, are spoken of as superior to those formerly kept. Some stal-



lions of the Morgan and Morgan and Bellfounder stock, have been introduced, and the foals by them are spoken of as being "precisely the stock which it is wished to rear." Upon the whole, the prospects are very favorable to the improvement of agriculture and the condition of the farmer throughout the Province.

#### PRODUCTS OF CALEDONIA COUNTY, VT.

Though located in the north-east corner of one of the coldest States in the Union, this county has long been noted for the independent condition of its inhabitants, and the large amount of its agricultural productions. If we mistake not, the census of 1840 indicated a larger amount of property, and a greater amount of produce, for each citizen of Caledonia county, than was exhibited for any other part of the country. We have received from Mr. J. P. FAIRBANKS, Secretary of the Agricultural Society of that county, a copy of the *Caledonian*, containing some valuable facts and statistics in relation to dairy products, from which we give the following summary:

"Dennis May, Waterford, kept 8 cows, and sold 750 lbs. of butter, and 900 lbs. of cheese. Robert Gilkerson, Barnet, kept 8 cows, and sold 840 lbs. butter, 120 lbs. cheese. Cloud Harvey, Barnet, kept 13 cows, and sold 1765 lbs. butter. The above was in addition to the amount consumed in their families. Lucius Freeman, Waterford, 7 cows, made 950 lbs. butter, 300 lbs. cheese. William Watson, Barnet, 21 cows, made 4000 lbs. butter. John Abbot, Barnet, 10 cows, made 2198 lbs. butter. Francis E. Fuller, Hardwick, for 10 or 15 years has kept 10 or 12 cows, and made on an average 200 lbs. of butter from each cow. Mr. Watson's cows averaged 190½ lbs. of butter, and Mr. Abbott's averaged 220 lbs. to each cow. The latter was sold at 18 cents per lb. and \$2 additional on the lot. Perhaps cases are not rare of single cows that have yielded 200 lbs. of butter in the season; but it is believed that instances are not common, where a stock of from 10 to 20 cows, with no other keeping than good pastures, have produced on an average so large a quantity."

#### AGRICULTURAL ADVANTAGES OF N. JERSEY.

We are indebted to H. W. S. C. of Oatlands, near Burlington, N. J., for some remarks on the facilities which are offered by that section of the country, to emigrants from New-England. Our correspondent seems well acquainted with different sections of the country—is a native of Massachusetts, but has passed several years in the west as a surveyor, and settled in his present location from a conviction that in no other situation he had seen, could a man with a small capital, commence farming under so favorable auspices, a conviction which has only been strengthened by three year's experience. Of the advantages of the neighborhood, the first mentioned is facilities for markets. Philadelphia is twenty miles below, with which there is communication by the Delaware river and by rail-road, and the competition for freight between boats and cars, affords cheap transportation. The market train of cars will top any where on the road to take freight. The farmer there is as near Philadelphia as the one within six miles, who hauls his own produce, and as the land is much cheaper than near the city, it follows that the farmer in the location mentioned has the advantage. The rail-road also connects with New-York, which city is reached in four hours, and there are at Burlington, plenty of purchasers of produce, always eager to buy any marketing that is rare and nice. The idea that New-Jersey is little better than a sand-bank, which is entertained by many who have only seen that portion of the State crossed by the rail-road from Amboy to Bordentown, our correspondent thinks would be no longer retained, if the section in which he is located could be seen during the season of crops and cultivation. He states that he cut last year upwards of two tons of timothy hay per acre on land which had received no manure for four years. But the region is peculiarly adapted to fruit and vegetables, which our friend thinks may be produced with great advantage and profit. As he had suffered severely from fever and ague in the west, he

took care to satisfy himself of the perfect healthiness of his present location, before settling, and has had every reason to be satisfied on this account. All that is wanted, in his opinion, to render agriculture profitable in that region, is an enterprising class of farmers. They have, he says, already some good farmers, but more are wanted to give character to the neighborhood. The climate is in his estimation, a happy medium between north and south. During the past winter, farmers were engaged in plowing during a great portion of the month of January. In conclusion, he says he "would advise no man who has a farm on which he can support himself at the east, to sell out for the sake of doing better elsewhere, because, as a general rule, he must meet with some loss for an uncertain gain; but there are many shrewd men with a small capital, say from two to six, or ten thousand dollars, who might fix themselves here with a certainty of receiving a good interest on their investment, and an almost equal certainty of their property increasing in value, and it is for such men that this sketch is written."

#### NEW-YORK STATE AG. SOCIETY.

At the regular monthly meeting of the Executive Committee of the New-York State Agricultural Society, on the second Thursday of April, the Recording Secretary reported that he had received, since the last meeting, communications and books for the Society, as follows:

1. A Letter from ALEXANDER DJUNKOVSKY, Perpetual Secretary of the Royal Imperial Economical Society of Russia; accompanied by a volume of Extracts from the Reports of said Society, in the German language.
2. Two volumes of the "Transactions of the Royal Agricultural Society of Jamaica," from that Society.
3. A Letter from JOHN H. REDFIELD, Corresponding Secretary of the New-York Lyceum of Natural History, with three volumes of the Annals of the Lyceum.
4. A Letter from the Hon. WM. YOUNG, President of the Board of Agriculture of Nova Scotia, with the Annual Reports of the Board.
5. A Letter from THOMAS BRIDGMAN of New-York, with a copy of the new and beautiful edition of his "Young Gardener's Assistant."

A vote of thanks was passed for these several donations to the Society's Library, and copies of its Transactions ordered to be forwarded to the several Societies above named.

The following is a copy of the letter from the Imperial Economical Society of St. Petersburg:

RUSSIAN IMPERIAL ECONOMICAL SOCIETY,  
Office of the Perpetual Secretary,  
St. Petersburg, the 29th of January, 1845.

To the State Agricultural Society of the State of New-York,  
in the United States of America:

The Russian Imperial Economical Society, established in the year 1765, having for its object the improvement of different branches of rural economy, desires to enter into correspondence with your Honorable Society for mutual exchange of different experiments, observations and discoveries, in order to promote the national welfare of both countries. The Almighty having blessed the United States and Russia with immense tracts of fertile land, has pointed out to us that the principal occupations of both countries should consist in rural pursuits. Therefore we feel real sympathy towards your great nation, and the more so, because our Society has the honor of counting among its active and useful members, one of your distinguished citizens, the honorable Col. Todd, the Representative of your country in Russia.

Our Economical Society has for a long time expressed the wish of communicating with Agronomical Societies in other countries, but as our annual accounts of proceedings and the transactions of our Society are published in the Russian language, which is very little known abroad; so the Society commenced publishing extracts of the annual reports and of the transactions in the German language, which is generally understood in civilized countries, and the Society conceiving that these publications would be the means of communication between the two countries, has therefore charged me as its Perpetual Secretary, to forward to you a copy of the said publication;

and I take this opportunity to add, that I am very happy to be the organ of expressing the sentiments of the Society towards your great nation.

ALEXANDER DJUNKOVSKY,  
Perpetual Secretary of the Society, Actual Councilor  
of State of the Emperor of Russia, Knight, &c.

Persons to whom Medals of the Society have been awarded, can obtain them on application to LUTHER TUCKER, Rec. Sec'y, Albany.

The Diplomas of the Society will not be ready for delivery, before September next.

All cash premiums remaining unpaid, will be paid on application either to T. HILLHOUSE, Treasurer, or to the Recording Secretary, Albany.

The Transactions of the Society for 1844, are now ready for delivery. Each County in the State, is entitled to 20 copies, on paying for the binding, which costs \$5, for the 20 copies. Orders for them, to be addressed to LUTHER TUCKER, Rec. Sec'y, Albany.

#### DESTRUCTION OF WEEDS.

The present month is one of the most rapidly growing seasons of the year. The farmer's crops not only make great progress, but weeds too are ever vigilant in thrusting up their heads and asserting their claims to the ascendancy. If they once get the upper hand for a week, the crop may feel the injurious influence for the whole season. Let them be attacked then at the very outset.

Weeds among root crops and corn, are destroyed with one-half, and often with one-fifth the labor otherwise required, if taken when about one inch in height. In a week or ten days they will be five or six inches high, will cost three or four times as much to destroy them, and will have exerted a seriously injurious effect on the crop. Hence it would be cheaper to hire a man at a dollar a day, at first, than at half a dollar afterwards.

By adopting this course the last year with ruta bagas, hoeing them well before the rough leaves were an inch long, the work was done with great ease and expedition; and although the land was hard, dry, and not rich, and so stony as to render broadcast sowing necessary, the whole cost per bushel was only about three cents and a half.

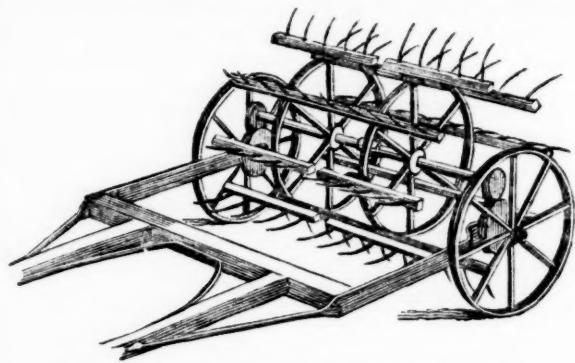
A large portion of the failures in raising ruta bagas, beets, and other root crops, have resulted from the heavy growth of weeds during the early part of the season, which are not unfrequently suffered to attain a foot in height before they are destroyed. The stunting effect on the crop, and the labor of weeding are obvious.

Repeated plowing and harrowing of the ground for some weeks before sowing roots, to clear it effectually of weeds, is a very economical operation, and saves much labor in weeding.

An excellent practice for keeping potatoes clean, where they are planted in drills, is to pass a fine-toothed harrow over the whole surface, just before they come up, to mellow the surface and destroy the weeds. When they are up, plow from the plants; then a light furrow towards them, thus leaving the hills or ridges broad. The hoe is only used for smoothing the surface and destroying what weeds escape.

It is well known that leaves are the breathing organs of plants; and that if a plant is kept constantly stripped of its leaves, or excluded from the air, during the growing season, the root soon dies. Hence all kinds of perennial rooted weeds, such as Canada thistles and milk-weeds, are soon killed if kept smothered beneath by repeated deep plowing. As soon as the first appear at the surface, invert the soil upon them, and the roots soon perish. We have known many instances, and in every case completely successful where thoroughly performed, where the Canada thistle was destroyed totally by deep plowing once a month through the season, and which prepared the ground finely for wheat before mid-autumn.

**BET ROOT SUGAR.**—The total amount of beet root sugar manufactured in Great Britain and Ireland in 1844, was 5,597½ cwt., an increase of 1,753¾ cwt. compared with 1843. Of this, 3,420 cwt. were manufactured at Startford, in Essex.



HAY-SPREADING MACHINE.—(Fig. 64.)

We believe American ingenuity has never yet been exercised in the manufacture of hay-spreading machines. While many farm implements have occupied a large share of attention, hundreds of patents having been granted for modifications only of single machines, the few hay-spreaders ever yet used here have been imported from Europe. These having been in many respects defective and not adapted to our country, have not been very strongly approved; but if those of American manufacture could be obtained, as much superior to the English, as our hay-rakes are to theirs, they would prove a most valuable acquisition. It is partly for the purpose of directing our mechanics to this subject, that we give the above view of the English hay-spreader.

It consists, chiefly of a frame and wheels, resembling a low, one-horse cart; between the wheels a set of horizontal rakes are made to revolve rapidly, their motion being in a direction opposite to that of the wheels. This motion is given from the wheels, through cog-wheels, to the axle on which these rakes turn. It is obvious that the wheels must be attached to the frame, without any axle passing between them, as that would interfere with the motion of the rakes, the axle of which is nearly a foot higher than the hubs of the wheels. The teeth of these rakes, by their rapid motion, strike the hay in the swath, lift it upwards and scatter it behind the machine.

The rakes consist of light pieces of timber, five and a half feet long, (so as to spread two swaths at once,) to which are attached the iron teeth, which are spikes seven inches long, fastened loosely so as to swing freely, and to fall back when they strike stones or other obstructions. Centrifugal force keeps them straight at other times. In long hay, a very thin, broad cylinder, incasing the frame-work which supports the rakes, is necessary to prevent clogging. As the hay frequently winds upon the hubs of the wheels, a covering upon them like the mud-protector of a carriage, would be of value.

Many years ago, a machine of this kind was introduced from Europe, by Gen. Wadsworth. W. W. Wadsworth of Genesee, informs us, that after using it himself several years, he abandoned it, having become satisfied that hand-labor was more economical. The long heavy grass of the meadows on which it was used, rendered its successful operation more difficult than in light short grass.

A machine was also brought from England by Humphrey Howland of Cayuga county, and has been used for several years on his meadows. Though much heavier than necessary, with one hand and two horses it will perform the labor of about ten men. One horse goes before the other, and to clear the grass effectually and do the work well, they need to be driven on a trot, at the rate of about five miles per hour.

Machines of this kind are in much use in some parts of England, more particularly in the vicinity of London. Though somewhat varied in construction, they all appear to operate on a similar principle. The cost in London is about twelve guineas, amounting with freight and costs, when brought to this country, to nearly a hundred dollars. They could probably be made in this country for fifty dollars, perhaps for much less; and if of a lighter construction, and with a greater multiplying power in the cog-wheels, and such other improvements as yankee experience could introduce, would doubtless prove on large farms a decidedly labor-saving machine. This would be quite a desirable object at the busy season of haying.



## Notices of New Publications.

### AGRICULTURAL EDUCATION, &c.

*European Agriculture and Rural Economy. From personal observation. By HENRY COLMAN. Vol. I. Part III. Boston, A. D. Phelps.*

The Third Part of this work is devoted principally to the subject of Agricultural Education. The Second Part closed with some account of the Agricultural School at Glasnevin, in Ireland. In the number before us, he gives some further particulars of this institution, and four others of a similar character, on the same island; Ireland having in this respect, taken the lead of both England and Scotland. This fact is the more striking when we consider the distracted state of that Island, and the extreme destitution and misery of a considerable portion of its population. Mr. Colman, however, eloquently remarks, that "this beautiful and wretched country abounds with intelligent minds, glowing with the warmest philanthropy. They appear, indeed, like stars in a partially clouded night, pouring out of their own native fulness, rays of the purest splendor." He was indeed greatly surprised at the degree of intelligence evinced by the Irish peasantry of some districts, and observes that "strange as it may seem, even the common people are familiar with the ancient classics." On inquiring of the hotel-keeper concerning the state of education among the people, "he immediately called in a dirty, barefooted, ragged boy, and told him to 'bring his books and show the gentleman what he knew.' The boy was the son of a shoe-maker, and ten years old." He brought in his Greek testament, and as Mr. C. says, "recited with perfect correctness, and showed a very good knowledge of the language, generally. He further remarks that he found classical learning was by no means uncommon in Ireland, even among some of the poorest people. His readers are however cautioned against the inference "that education in Ireland is every where of this high character, or that it is universal."

In relation to the application of this subject to agriculture, he observes—"Every one will admit that the more intelligence, the more skill, the more knowledge a man has, the better is he qualified, other things being equal, for the management of a farm. It holds equally true that the more intelligence, the more skill, the more knowledge, a laborer has, the better is he qualified to assist in that management, and to perform that part which belongs to him in working of the whole machinery."

In regard to the quantity of work performed relatively by the English and American laborer, it is remarked that the latter "accomplishes more in the same time," though Mr. C. observes that he "cannot say the Americans always do their work so well. Certainly, in plowing and draining, our operations are altogether inferior to what is done in England, where, in the perfection with which these matters are executed, nothing more seems to me attainable or desirable." But it must be borne in mind that, as is well remarked, we are under the necessity of accomplishing more with the same number of hands.

At the Glasnevin school, the pupils are regular apprentices, and labor is compulsory. Three boys do the work of one man. The Institution is under the management of Mr. Thomas Skilling. The great object is to give boys such an education as will fit them for practical farmers. Mr. Skilling is also employed to give instruction at the Model School, where men are educated as schoolmasters at the expense of the government, of which there are two classes a year, of one hundred each. This Agricultural school appears prosperous, and were it not for losses of cattle which have been sustained from a prevailing epidemic, it would at least have paid its way, if not more. A statement given from Mr. Skilling, shows the general course of management pursued with the pupils, their dietary, &c. They seem to be well treated, and fed in a manner well calculated to promote health and activity, though their food is not so abundant, and perhaps would not be thought of so palatable a kind, as some of the pupils of our schools might desire. Mr.

Skilling observes that it is his object to "treat them as respectable members of society, and they will not relapse into their former wretched condition, but will work and obtain for themselves the comforts of life."

The other Agricultural schools in Ireland, of which Mr. Colman speaks, are those of Templemoyle, near Londonderry, Brookfield, twelve miles from Belfast, under the direction of the Society of Friends, and that at Larne. We cannot afford space to notice all these in detail, nor do we deem it necessary, as they are similar to the one already described. The Brookfield school was originally designed for educating the children of indigent members of the society. The children, which are about equally divided in sex, are admitted between the ages of eleven and thirteen. The establishment is under the direction of a man and his wife, with a school-master and his female assistant. The boys are taught agriculture and its kindred arts; and the girls are taught domestic economy and house-work, in connection with all useful studies. Mr. Colman remarks that he "thought extremely well of this Brookfield school as a charitable institution." He was especially pleased with the training of the children to habits of industry.

It was from the Larne school, that a class of boys were exhibited at the Highland Society's Show at Glasgow, of which such flattering notices have been given in the English and Scotch papers. Mr. Colman expresses very great gratification at having witnessed this exhibition. "The agricultural studies at this institution," he remarks, "are not made compulsory but voluntary; and one hour per day is devoted to agricultural labor. The Board of Education in Ireland have now under their control three thousand teachers; and it is proposed, whenever it may be deemed useful, to make agriculture a standard branch of common school education. They have already seven agricultural training establishments, and it is in contemplation to have twenty-five, with which it is proposed shall be connected small model farms, so that every where, besides furnishing this most valuable instruction to the pupils of the schools, the farmers in the vicinity may be excited and instructed to improve their cultivation." In conclusion, he observes that "these institutions do certainly the highest honor and credit to the intelligence and philanthropy of Ireland, and their beneficent effects must presently be seen in alleviating the indescribable amount of wretchedness under which this beautiful country and fine spirited people have been so long crushed to the earth."

There is a school of a somewhat similar nature at Ealing, near London, supported by Lady Noel Byron, which accident has prevented Mr. Colman as yet from visiting. This school is also in a highly prosperous condition, and is deemed of the most useful character.

The proposed Agricultural College at Cirencester, in England, is briefly spoken of. The plans for this institution are not fully matured, but Mr. Colman thinks "the scientific qualifications of some, and the practical character of others of the gentlemen, concerned in its establishment, and standing as its sponsors, warrant the best efforts for its success."

Next follows a chapter under the head of "GENERAL VIEWS OF AGRICULTURAL EDUCATION." Mr. Colman here observes that as the subject of agricultural schools has been much discussed by his own countrymen, who have already a distinct proposition for the establishment of an institution of this nature, he deems it proper to extend his remarks on this subject. He thinks—"It is quite certain that the course of education pursued at most colleges and universities, is quite unsuited to qualify men for the common business and pursuits of life. Indeed, it would seem in many cases to operate as a positive disqualification, and men who may have distinguished themselves at our universities for their classical and scholastic attainments, are often thrown upon society as helpless and as incompetent to provide for themselves, or to serve the community, as children." He objects to the system of education pursued at our colleges and universities, that it "has undergone little substantial alteration for a century," and he thinks the time and expense devoted to what are called "classical attainments," should be given to other studies infinitely more valuable. He believes

that an institution "of the practical arts and of those sciences which bear directly upon practice, must be greatly desired by that portion of the community whose education must be to them a means of subsistence, and who have but little time to cultivate the arts, but with a view to apply them at once to the purposes of practical life." Under every consideration, Mr. Colman thinks the importance of an institution where may be taught the practical arts, and such sciences as are applicable to agriculture, is fully demonstrated.

"The perfection of the art of agriculture," he remarks, "is that in which the largest amount of product is obtained at the least expense of labor and manure, and with the least exhaustion to the land. Indeed," he continues, "there is reason to hope that we may presently reach a system of cultivation in which, though the crops may be large, the land itself shall not be exhausted, but be in a continued course of amelioration. I know well there must be a limit, but that limit no one can yet define. We know already that crops with large leaves, and therefore large powers of absorption, are commonly improving crops; and we know equally well that the growth of a forest upon land, so far from exhausting, is, in fact, an improver of the soil. The system of nature every where, if man performs his duty, is a system of amelioration, and not of deterioration; it is every where a system of recuperative compensations if man does not controvert or pervert its laws."

**CHEMICAL SCIENCE.**—The high value of chemical knowledge in improving the condition of agriculture, Mr. Colman thinks "it is at least safe to presume." But he observes, that though he does "not mean to undervalue the science, nor to disparage what has already been done, nor to discourage the sanguine hopes which some entertain for the future; yet in the present state of agricultural chemistry, the extreme confidence of some persons may be at least pronounced premature. The application of sulphuric acid to bones, seems as yet to be the only well established case of the application of chemical science to the improvement of agriculture upon scientific principles. The operations of gypsum are still an insolvable mystery, and the explanations which have been given of its effects do not appear to be confirmed by facts. The application of lime to the soil, and its particular advantages and uses, are still among the vexed questions of agriculture. The same uncertainty of explanation is applicable to various manures, in regard to their mode of operation and their precise chemical effects. I do not hold this as a reason for rejecting the aid of chemistry, but only as a ground for moderating a too sanguine confidence in its power. As it offers the most probable means of solving many of the secrets of nature's operations, and as in many of the mechanical arts its triumphs are complete, there are strong reasons for pressing our inquiries by means of it, and for the best hopes of as much success as, in the present condition of the human mind, we have any right to expect."

**ANALYSIS OF SOILS.**—Under this head, we are furnished with the results of many analyses of soils, in reference to the practical utility of which, Mr. Colman says—"I believe it may be of great utility in determining the general and predominant characteristics of the soil; but with great respect for science, and for the labors of those men who by their distinguished attainments have conferred the highest benefits on the community, I can come to no other conclusion than that any expectation of adapting our cultivation, upon any extended scale to these minute diversities of soil, is illusory; and that the most illustrious chemist living may be challenged in vain to prescribe any practicable culture adapted to meet, with any degree of exactness, the cases given, or to recognize in his applications or prescriptions, with any success, the number diversities of composition which are here presented."

**NATURAL SCIENCE.**—"Every possible facility," says Mr. Colman, "should be provided for the study of natural history, for every branch of natural history may be made subservient to agricultural improvement. There is, in my opinion, nothing which so invigorates and strengthens the mind, as earnest and deep inquiries into nature, the study of natural facts, the observation of nat-

ural phenomena. The man who goes himself to the original sources of knowledge, and draws water out of the very wells of life, acquires a force of inquiry, maintains a healthful freshness of mind, turns every object and occurrence with which he meets, into an instrument of instruction, and finds nature no longer a dull, desolate, inanimate chamber, but its walls all over radiant with lessons of wisdom, and every object with which it is crowded, vocal with the teachings of a Divine spirit."

**PLAN OF AN AGRICULTURAL INSTITUTION FOR THE UNITED STATES.**—In organizing an institution of this nature in this country, Mr. Colman is opposed to an expensive plan. Ireland, he thinks, "has set us an excellent example in this respect. With us, they might be in a great measure self supporting." He would not suffer the number of pupils to exceed one hundred. "Some good sized hall or building would be requisite for public meetings, lectures, or recitation-rooms, and for a museum, library, and chemical laboratory; but I would erect no college-building for the residence of the pupils." He proposes that they should either board with families in the neighborhood, or else that several farm-houses should be erected on the place, "sufficient to supply the needful accommodations," &c. One or two instructors should be employed constantly for teaching the main branches of education, and a competent farmer should be employed to manage the agricultural department, and to give the necessary practical instruction. Beyond this, no resident instructors would be required, but regular and full courses of lectures and experiments in geology, mineralogy, botany, comparative anatomy, and the veterinary art and chemistry, by competent professors of these sciences, who might be employed for these objects annually, without the necessity and expense of constant residence, as is now frequently done at our medical schools. In this way, the best talent in the community might be commanded, and at reasonable expense. I would require in the next place, that the pupils should be placed in a condition of perfect equality, and that a certain amount of labor should be made compulsory on all, at such a rate of wages as should be deemed just, according to the ability of the pupil, and the nature of the work done."

The first object at such an institution, Mr. Colman thinks should be "the thorough indoctrination of the pupils in natural science, and in mechanical philosophy, so far as it can be made to bear on agriculture." That in the second place, the pupils should be furnished with an opportunity of witnessing the best farm management, and the best practices in husbandry. "The management of live stock whether for work, for fattening, or for dairying, might in a small degree be exemplified on every well-managed farm. Such an appendage as this to a school of practical instruction, where the pupils might see and have explained to them the very best modes of husbandry, must be of the highest benefit. To these should be added an *experimental* farm. This need not be extensive, and it might be connected with the model farm; indeed, the model farm might itself be to some degree, an *experimental* farm. It may be said that the premiums offered by agricultural societies for various experiments in husbandry, are sufficient to meet the public wants in this case. I admit that they have in this way rendered immense benefits to the public; but there are still wanted various trials and tests of soils, manures, grasses, plants, implements, modes of cultivation, modes of feeding, breeding, dairying, and on the effects of temperature, moisture, heat, frost, light, and electricity, which common farmers can scarcely be expected to undertake, or if undertaken, to follow out with that exactness which is most desirable, in order to render the results of such experiments worthy of confidence, and lessons for general application." He further recommends, that there should be connected with the establishment, gardens, "for purposes of botanical instruction, giving the pupils an opportunity of becoming acquainted with all the principal plants, grasses, forest trees, fruit trees, and weeds, which enter into their cultivation to the advantage or injury of the farmer; and for making the pupils thoroughly acquainted with the cultivation of all the varieties of vegetables and fruits which may be required for use, profit, or luxury." He says, "I throw out these hints to my



countrymen, not with a view of dictating to their superior judgment, but to show that an institution for a practical and scientific education in agriculture may, without any hazardous expenditure, or any large investment, be made almost immediately attainable, and under every practicable advantage."

Under the heads of **RURAL MANNERS IN ENGLAND, A PENCIL SKETCH, and LIFE IN THE COUNTRY**, we find beautiful, and indeed charming descriptions of the character of some of the higher class of farmers, and the nobility of England, but we are forced from the space allotted to this article, to pass over them without extracts.

The **VETERINARY COLLEGE**, near London, is spoken of; and is, in Mr. Colman's estimation, a highly useful as well as humane institution; and he earnestly recommends that similar establishments should be connected with medical schools in this country.

The chapters on the **MUSEUM OF ECONOMIC GEOLOGY, CHEMICAL AGRICULTURAL ASSOCIATION IN SCOTLAND, CHEMICAL AGRICULTURAL LECTURES, and EMPLOYMENT OF AGRICULTURISTS**, comprise the remainder of the Third Part.

The typographical execution of this, as of the former portions of the work, is beautiful, and certainly does much credit to Mr. Phelps, the publisher. We presume it is reasonable to expect that the remaining portions of Mr. Colman's work will be more particularly devoted to the details of husbandry as practiced in Great Britain.

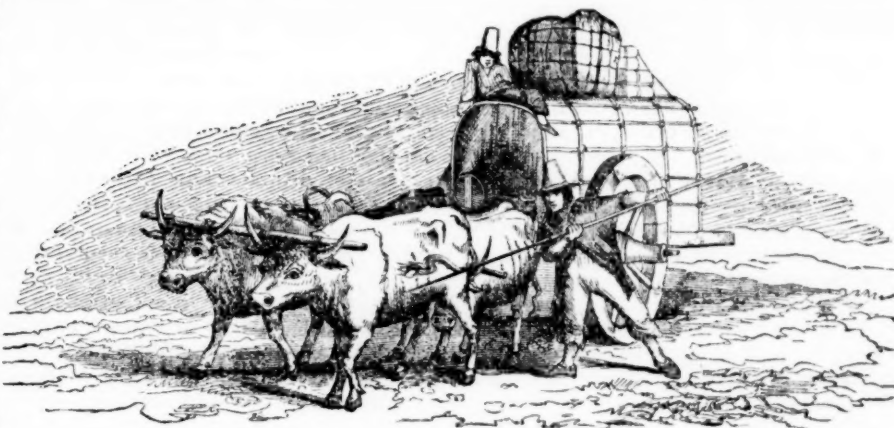
#### THE EXPLORING EXPEDITION.

*Narrative of the United States Exploring Expedition, during the years 1838, 1839, 1840, 1841, 1842; by CHAS. WILKES, U. S. N., Commander of the Expedition.* Philadelphia: LEA & BLANCHARD.

This work was first published in five large imperial octavo volumes, with steel vignettes and line engravings of scenery, &c. together with finely executed maps and charts; making a magnificent, though expensive work.

The publishers have now commenced the issue of a much cheaper edition, containing precisely the same matter as the first; the only difference is in quality and size of the paper, the substitution of wood-cuts for the steel vignettes, the omission of the line engravings and some of the maps. It is afforded at a price which will bring it within the reach of many from whom the other would have been debarred; the cost of the large edition being twenty-five, and that of the latter, only ten dollars. It will consist of five volumes, one of which will be issued about every two weeks till the work shall be completed. The publishers say the number of wood illustrations in this edition is nearly three hundred.

With the first volume of this work, which has been received, we are much pleased. It contains a very large amount of the most interesting and valuable matter pertaining to the various objects to which the attention of the officers belonging to the Expedition was directed. The volume numbers fifteen chapters, in which are given all the important details in relation to the fitting out of the Expedition, and its progress till its departure from Peru, on its course among the islands of the South Paci-



The Ox-Cart of Chili—(Fig. 65.)

fic. The only serious accident sustained by the squadron, was the loss of the *Sea-Gull*, one of the tenders, which, with all on board, it is supposed was sunk in a storm in the latter part of April, 1839. We cannot but express the gratification we have enjoyed in reading the accounts, which are no doubt truthfully, as they certainly are interestingly given, of the physical, civil, and social condition of the different countries and tribes of people, visited. We find much in reference to the agricultural and economical capacities, and rural management of those countries, which, did space allow, might be transferred to our pages, to the gratification of our readers, but our notice must necessarily be brief.

Having touched at Madeira, Rio Janeiro, and passed round Cape Horn, circumstances rendered it expedient for the squadron to put into Valparaiso for repairs, and while detained there, the officers made several excursions into the neighboring country. The city of Valparaiso, as well as the Province or State of Chili generally, is described as being much improved in its political relations, and in the morals and habits of the people, within the last twenty years. The agriculture, however, from the accounts given, must be still in a rather rude state. The plows are described as "nothing more than crooked sticks, with the share and point hardened by charring." The vehicles, the few that are used, for conveying produce to market, are almost equally rude and inconvenient. We are informed that "the heavy merchandise is for the most part transported in ox-carts of enormous dimensions. (See fig. 65.) Their wheels are clumsy, and



Taking Grass to Market in Chili—(Fig. 66.)

without tires, and the whole frame is made strong with timber pinned together. Their perpendicular sides and rounded tops are wattled with cane and covered with bull's hide. No iron is used in their structure; wooden pins and raw-hide lashings serving to answer the purpose better. The yoke is set on the heads of the oxen, behind the horns, and fastened to them. The creaking of these carts may be heard for miles, as the drivers never think of greasing the wheels to lessen the friction. They are generally drawn by four or eight oxen."

Horses, mules, and sometimes llamas are used for the

transportation of lighter articles. The lamas are used chiefly in the mountains, and carry from seventy to ninety pounds weight.

We are told that at Valparaiso there are no market gardens, and that "nearly all the vegetables are brought from the valley of Quillotta, about sixteen miles distant on the backs of mules, in panniers. The mode of bringing grass or clover to market, is peculiar; it sometimes almost covers both horse and rider." (See fig. 66.) The beef and mutton to be had in the market, is represented as proverbially fine—the prices of the former six, and the latter three cents per pound.

The account given of the condition of Peru, is much less favorable than that of Chili. The revolutions it has so often undergone, together with the late war with Chili, seem to have completely broken down the energies of the people. We are told by Lieut. Wilkes, that there is actually less soil now cultivated than was improved by the Indians, or the "children of the sun," before the Spanish conquest; and that every thing indicates the semi-barbarism of the inhabitants. The former accounts of their being no rain in Peru, are corroborated, so far at least as relates to an extent of the country of fifty to sixty miles wide along the coast. The records kept at Lima, show the occurrence of rain only four times during the eighteenth century. In other sections rain falls, and in some instances copiously. Irrigation is somewhat practiced in the districts which have not the benefits of rain. The soil and climate are favorable to many plants, and the irrigated land gives continued vegetation through the year. "Harvests are gathered in every season, and flowers and ripe fruits are seen at the same time."

Had we space, we should be glad to make further extracts from the work, especially in relation to the silver mines of Peru and Chili, which were visited by a detachment of officers and gentlemen, who collected much valuable matter in relation to them. We shall look with interest to the other volumes.

Since the above was written, we have been favored with the second volume, but have only time to say that the interest of the narrative, so far as we can judge from a partial glance, is well sustained. The work is for sale at Little's, in this city.

*Transactions of the NEW-YORK STATE AGRICULTURAL SOCIETY, together with an abstract of the Proceedings of the COUNTY AGRICULTURAL SOCIETIES and the AMERICAN INSTITUTE: vol. iv.—1844.*

This volume numbers 524 pages, octavo, and may be pronounced not inferior in interest or value to any former one published by this Society. Besides the account of the doings of the State Society, condensed notices are given of thirty-seven County Societies; and one hundred and eleven pages are devoted to the report of the American Institute. The book contains many highly valuable papers—such as the prize essays on the different branches of husbandry, and several able papers communicated to the State Society by distinguished writers and practical farmers, from various parts of this country as well as Europe. Among the papers reported by the American Institute, will be found the Proceedings of the Silk Convention held in the city of New-York last fall, during the exhibition of the Institute. The latest improvements in conducting the silk business, and many important facts are here given to the public through the medium of reports of committees, and communications from upwards of twenty individuals more or less engaged in the culture and manufacture of silk, in different parts of the Union.

*Every man his own Farrier: containing the Cures, Symptoms, and most approved methods of cure of the DISEASES OF HORSES: by FRANCIS CLATER and his Son JOHN CLATER.—First American, from the twenty eighth London edition; with Notes and Additions, by J. S. SKINNER. Lea and Blanchard, Philadelphia.*

No works on the veterinary art have been received with more confidence than Clater's; of this, the numerous editions through which they have passed in England, is good evidence. Mr. Skinner's editions of Youatt on the Horse, Every Man his own Cattle-Doctor, &c. which

have met with considerable popular favor, are proof that the present publication is ably edited. The work is well got up, in a cheap form, is well calculated for daily reference, and we have no doubt ought to be found, as Mr. Skinner says, "in every stable, along with the curry-comb and brush."

*Popular Lectures on Science and Art; delivered in the principal Cities and Towns of the United States, by DIONYSUS LARDNER. Greely and McElrath, New-York.*

We have received the two first parts or numbers of this work. It will be completed in not less than ten nor more than fourteen numbers, which will constitute two large octavo volumes, illustrated with numerous engravings. The price is 25 cents for each number. The work is an embodiment of the scientific Lectures delivered by Dr. Lardner in this country, which were received with universal satisfaction by all who listened to them. We take pleasure in recommending this excellent work to the public.

*Elocution made Easy: containing Rules and Selections for Declamation and Reading, with Figures illustrative of Gesture. By R. CLAGGETT, A. M. Paine & Burgess, New-York.*

A useful work, well worthy of introduction into our schools. For sale by E. H. Pease, Albany.

#### CONDENSED CORRESPONDENCE.

EFFECTS OF CHEMICAL COMPOSTS.—The articles accompanying the following letter were duly received. The sea-kale was decidedly superior to any we have ever seen:

Pelham, Ulster co., May 9, 1845.

MR. LUTHER TUCKER—To show you how much the growth of grass and grain may be accelerated by the use of chemical composts, I send you the following specimens, grown in the open field this spring, viz: Oats sown the 6th of March, 18 inches high; timothy grass 21 inches; clover 19 inches; and orchard grass 33; cut on the 8th of May—the three last were sown last fall.

I also send you some sea-kale, a delicious vegetable, eatable from the 10th of April to the 10th of May—it is blanched under boxes.

R. L. PELL.

REMARKABLE FECUNDITY.—"K." gives us the history of what may be called a remarkable cow, in every particular. She was bred, and is at present owned by Hawthorn McCulloch, Esq. of Greenbush, Rensselaer county. She is 9 years old this spring, and was sired by an imported Durham bull, out of a cross Durham and Native cow. The spring she was three years old, (her first calving,) she had twins—the next year a single calf—the next year, twins—the next year a single calf—the next, three—the next, twins—the next, (the present year,) three calves—in all, 14 calves in 7 years, all fine healthy calves, except the last three. She gives at present from 56 to 60 pounds of very rich milk per day. She is a large handsome cow, and fatted, would weigh 1000 lbs."

TO DESTROY CABBAGE LICE.—MR. WELLER, of Brinkleyville, N. C. informs us that he has found sprinkling dry dirt on cabbage plants when the dew is on, will destroy or drive off the lice. We have tried dirt as is mentioned, as well as ashes and powdered gypsum, and have found ashes to do best.

TO PRESERVE VINES FROM BUGS.—MR. WELER also informs us that a decoction of tobacco and red pepper, sprinkled on the leaves of cucumbers, melons, &c. "will drive off at once and for good, the little oblong striped bug which is sometimes so destructive to these plants." Mr. W. has been told, he says, that the pepper tea itself will answer the purpose.

GARDEN TOOLS.—Extract of a letter from THOMAS COLLINS, Burlington, N. J.—"We have in use in this vicinity, two garden tools, invented here, and much approved; the principal one is a 'weeding hoe,' the other, a stout four pronged fork, for hand weeding in flower beds. The weeding hoe is a light tool, but very efficient for cutting off weeds when but a few inches high. Of the hoes, I have had manufactured many scores, and dis-



tributed in various parts of this country. Some were given away, others sold."

**IMPROVEMENT OF WORN OUT LANDS.**—Extract of a letter from E. STABLER, Esq. of Maryland—"I have labored hard for some 20 years to improve a farm which was worn out by the 'old Maryland plan' of raising corn and tobacco. By the liberal use of lime, it is now productive and profitable; having within the last 12 or 14 years covered the whole waste part (except 5 acres,) with from 60 to 100 bushels of lime to the acre. Twelve to fifteen years since, there were only 2 kilns within six miles of me; and only used to burn lime for building purposes; now there are within the same distance, not less than 35 to 40 lime kilns, and used almost exclusively for farming purposes."

**SUBSOIL PLOWING.**—Extract of a letter from H. L. R. Sanford, of Volney, N. Y. The benefits of subsoiling should not be expected to be very great on loose gravelly land. "Last spring we procured one of Ruggles, Nourse & Mason's subsoil plows, and made some trials, but not with very good success. We plowed two acres for corn, in strips—a gravel ridge—one corner clay loam; could see no difference on the gravel, but think the subsoiled part on the clay, somewhat better. We tried also, another piece, clay loam, sowed to oats and planted with corn; could see no difference in the crop whatever; but notwithstanding this failure I mean to try it again."

**POTATOE ROT.**—J. R. BLAIR, Kent, Ct., is inclined to think the rot in potatoes last year, was caused by several weeks of wet weather in the summer, succeeded by excessive heat and drouth. He seconds the recommendations in the April number of the Cultivator to plant hardy varieties; says he "noticed white potatoes decayed more than the red ones." In regard to the suggestion about the use of lime, we will just remark that we have heard of several cases where it was put on the potatoes at planting time, without any apparent effect having been produced.

**CHARCOAL DUST.**—Extract of a letter from Mr. S. CAMP, Plainville, Ct.—"I will mention an experiment made by myself about eighteen years ago. Having a piece of hill land, of about three acres ready plowed, I seeded it down to timothy. It produced about one ton to the acre. It has been mowed once, every year since, has had no manure, and has not been pastured at all. It has gained *one-third*, and remains the same kind of grass. About five years after sowing, I burnt coal near the place; I took from the bed, dry dust and fine coal in my cart, and with a shovel sowed twice through the piece which has increased the quantity of grass on those streaks ever since, nearly *one-half*."

**OLD WESTCHESTER AWAKE.**—Extract of a letter from T. FOUNTAIN, Esq. dated Peekskill, April 25.—"On the 17th inst. although a rainy day, about one hundred farmers met at the court house at White Plains, agreeable to previous notice, and formed a Society for the promotion of agriculture and horticulture in this county. The prospects now are encouraging, and we have the most cheering indications that old Westchester will do something worthy of herself, in the way of agriculture, horticulture, floriculture, &c."

**EXTRAORDINARY PIG.**—HARVEY FORD, of Winchester Centre, Ct., informs us that Samuel Cook of Goshen, in that State, killed in November last, a pig, at the age of eight months and twenty-four days, which weighed, dressed, 472 pounds! "Being a gain," he says, "of more than a pound and twelve ounces per day, during the life of the pig, and a fraction less than two pounds a day from the time Mr. Cook bought it, April 12th, 1844, when it weighed twenty-five pounds. It was fed on cornmeal, uncooked, with the slops of the kitchen. It was worth at six cents per pound, (the price offered, but refused,) \$28.32 from which deduct \$16, the worth of the corn it consumed, and \$2.50 the first cost of the pig, leaves \$9.82 profit." Mr. Ford says he assisted in slaughtering the pig, and weighed it himself, and knows the weight above given to be correct. We believe the weight to be the most extraordinary for the age, that we ever heard of. Is there a *variety* or breed of swine in that neighborhood that can be brought to any thing like

such a weight at eight or nine months old? How were the other pigs that belonged to the same litter with Mr. Cook's? Can any such account be given of them?

**TO DESTROY ALDERS.**—A. H. HALLECK, Esq. of Westmoreland, Oneida county, says—"Having a piece of low ground on my farm, with too many large bunches of alders upon it, I was induced to try an experiment to eradicate them. On the 23d and 24th days of August, 1843, I caused them to be cut off about twenty inches above the surface of the ground; the result was, that scarcely one sprouted the next year, (1844.) This season the old stubs are so tender and rotten, that they are easily knocked off level with the ground. I had a particular reason in causing them to be cut on those days. I am now so well satisfied that by taking a certain time in the month of August to cut Alders to exterminate them entirely, that if I had any more on my farm, I should cut them this summer, either on the 2d or 30th days of August next; I should however, prefer the last mentioned day."

**RELIEF OF CHOKING IN CATTLE.**—Mr. DUNPHEY, of Fishkill Landing, N. Y., recommends the use of a piece of cable, four feet long and five inches in circumference, with one end made into a soft ball, to be pushed down the animal's gullet. We have generally known tarred rope used for this purpose. The size of the rope about three inches in circumference. A ball of tow, bound with soft leather, attached to one end, so that the end might be as large as an ordinary hen's egg. We have often seen cattle relieved from choking, by the piece of potatoe or turnep which occasioned the difficulty, being with this rope pushed into the stomach. From its flexibility, and the yielding of the ball of tow at the end, there is no danger of rupturing the gullet, as is often done in the barbarous practice of running down sticks, such as hoe handles, &c.

**REMEDY FOR "HOVEN," OR "BLOWN" CATTLE.**—Mr. DUNPHEY informs us that he uses in this case, for "tapping" the animal, a knife which he describes as having a handle four inches long, a blade four inches long, and an inch and a quarter wide, and a hilt three inches long, and an inch wide. He says—"previous to using the above knife, an incision may be made with a small knife, one inch in length, downwards, on the left side of the animal, at five inches from the hip bone. Then the large knife may be plunged into the incision to the hilt, with safety, which allows the foul air to pass out, and gives immediate relief. Should the wound close so as to prevent the escape of the air, it may be kept open by inserting a small tube, and keeping the animal gently moving."

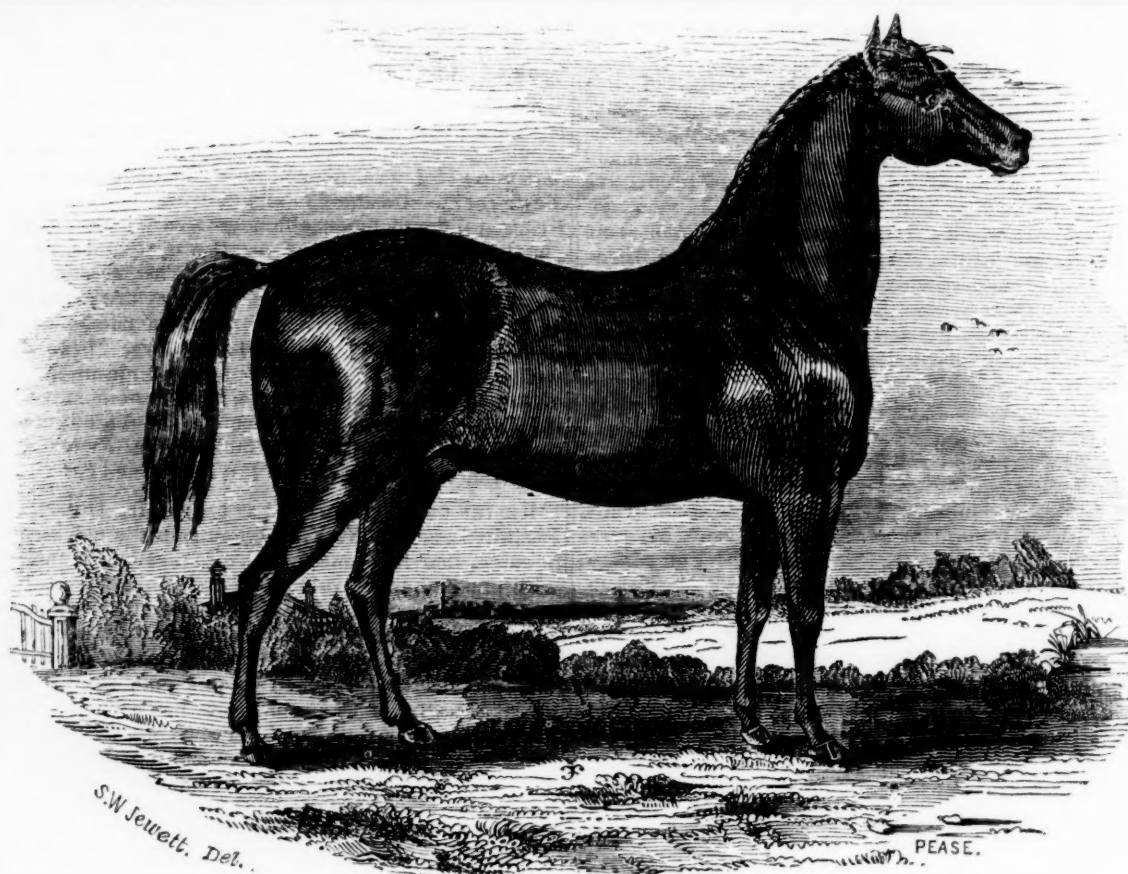
**USE OF AGRICULTURAL PAPERS.**—Extract from the Corresponding Secretary of one of the County Agricultural Societies of this State—"I have just returned from the meeting of our Executive Committee, and wish to repeat some of the conversation I heard.

"When on the subject of the plowing match, T. H. said, 'that plowing match, two years ago on Carpenter's place, did at least a hundred dollars worth of good to the neighborhood, by showing our farmers what some men could do. D — — would not believe there was a plow in the world equal to his; but he saw his mistake after receiving the fifth prize.'

"Speaking of cheese-making, it was remarked that A. L. had nearly always carried off the first prize; 'but do you know,' said B. 'how he managed to do that? He never was much of a dairyman, and his wife knowing nothing of cheese-making, learned how from reading the Cultivator—the directions in which she followed, and you see the result.'

"I don't question that at all," said J. H., 'for I save every year at least four times the cost of subscription, by reading that paper.'

**CHANGE OF SEED.**—I would like to ask the readers of the Cultivator if they are aware of the advantage to be derived from obtaining their seed, particularly wheat and oats from higher latitudes. Oats are much heavier here than in the south part of the State. Spring Wheat is also much improved by changing the seed. *Willels Keeser, Clinton Co. N. Y.*



THE MORGAN HORSE "BLACK HAWK."—(Fig. 67.)

I believe the Morgan blood to be the best that was ever infused into the "Northern horse." They are well known, and are esteemed for activity, hardiness, gentleness and docility, throughout the New-England States; well adapted for all work; good in every spot, except for racers on the turf. They are lively and spirited, lofty and elegant in their action, carrying themselves gracefully in the harness. They have size in proportion to height; bone clean, sinewy legs, compactness, short strong backs, powerful lungs, strength and endurance. A mixture of the Morgan blood, though small, may be easily known from any other stock in the country. There is a remarkable similarity prevailing in all of this race. They are known by their short lean heads, wide across the face at the eyes; eyes lively and prominent; open and wide in the under jaws, large wind pipe, deep brisket, heavy and round in the body, broad in the back, short limbs in proportion to size, broad quarters, a lively quick action, indomitable spirit, move true and easy in a good round trot, fast on the walk. Color, dark bay, chestnut, brown or black, with dark flowing wavy mane and tail; head up, and moves without a whip; about fifteen hands high; action powerful and spirited.

They are highly celebrated for general usefulness, make the best of roadsters, and live to a great age. In fact they are the perfect "Yankee harness horse."

The Morgans are very like the noble Arab, with similar eyes, upright ears, high withers, powerful quarters, hocks well placed under their weight, vigorous arms and flat legs, short from the knee to the pastern, close jointed, possessing immense power for their size, with great fire and courage. But a few of the Morgans, however, evince extraordinary speed.

It is said that the best stock of horses in the New-England States, are found among the progeny and descendants of the Sherman Morgan, which was owned by Mr. Bellows of Vermont.

The figure above is a portrait of Black-Hawk, "a colt of the Sherman Morgan, which was got by the old Justin Morgan horse. The dam of Black-Hawk was a three quarter blooded English mare, raised in the Province of New-Brunswick. She could trot a mile in less than 3

minutes, and weighed 1025 pounds, and was in every respect a most perfect animal."

Black-Hawk was bred by Mr. Matthews of Durham, N. H. He is a jet black color; weighs, in good flesh, 1040 pounds; his height is 15 hands and one inch. A line drawn from the hip even with the ham, just below the setting on of the tail, is four inches longer than the back, or the distance from the hip to the withers. A line dropped perpendicular from the neck, parallel with the fore leg, is nineteen inches forward of the junction of the withers. The distance between the hip and the ribs, is only one and a half inch. He has a broad and vigorous arm, flat and clean leg, large muscles, short from the knee to the pastern, large wind pipe and nostril, well open when under motion. He is one of the best proportioned and most elegant moving horses that can be produced. His colts are very fine and in good demand; indeed, I have been credibly informed that his colts when offered in Boston market, would readily command an extra \$100, if the purchaser could be assured that they were by Black-Hawk. "Mr. Bates of Boston has refused \$600 for a filly by Black-Hawk. She can trot a mile in 2 minutes 48 seconds. For bottom and speed in trotting, Black-Hawk cannot be surpassed. When a colt, he trotted in harness on Cambridge Park, one mile in 2 minutes 42 seconds, without training. In a match for \$1,000, that came off at the Cambridge trotting Park, 12th July, 1842, against Osceola, five miles and repeat, he won with ease, although very fat and not in train. The first heat was performed in 16 minutes 30 seconds. The second in 16 minutes. In the Oct. following, he won a sweepstakes of \$200, beating Grey Tim and Dying Sergeant. Had previously won matches for \$400 or \$500, and in fact has never been beaten."

DAVID HILL, Esq. of Bridport, Vermont, obtained this celebrated horse of Benjamin Thurston of Lowell, Mass. He was kept at his stand last season in Bridport, and he designs to use him at the same stand hereafter for the improvement of horses.

He took the first prize at the Addison County Show last October. Mr. Hill contemplates exhibiting him at the N. Y. State Show at Utica next Sept., where I think he



must be admired by all connoisseurs of the horse. He is perfectly sound, a close jointed, clean limbed animal, and carries a beautiful waving head, mane and tail. His legs are flat and hard, clean from long hairs on the fetlock; his eyes stand out prominent; his disposition kind and playful. He keeps fat with very little feed, too fat at the time I took the drawing, to develope all his points successfully.

At my suggestion, his hay was accurately weighed for one week, and the feed consumed, stood as follows: of oats and bran three quarts of each daily, and he consumed between five and six pounds of timothy each day.

No fault can be found with the horse unless it be in his size; however, his stock are sufficiently large for roadsters and for general usefulness in this State.

The patronage Mr. Hill receives from breeders both far and near, is sufficient expression of the opinion of the public, without any other recommendation. Relative to the origin and stock of Morgan horses, your readers may hear from me again by and by. S. W. JEWETT.

Weybridge, May 1, 1845.

#### MANUFACTURE OF BUTTER.

The committee on butter for the Addison County Agricultural Society, in an elaborate report which we find in the Boston Cultivator, strongly recommend the use of Turk's-Island or rock salt, for butter. A little less than one ounce of this salt, properly pulverized, is said to be sufficient for a pound of butter—or 14 ounces salt to 16 pounds butter. The committee say that this kind of salt has a tendency to harden the butter, and that by working, it will be rendered ripe and fit for the tub or table, with but little more than half the labor required for bag salt. It is also stated that the properties of rock salt may be destroyed by too much heat in drying, and it is recommended that it may be dried in a clean place, in the shade. The committee discourage the use of Liverpool bag salt, altogether, as it is thought to contain certain impurities which render it unfit for keeping butter.

*Dairy house.*—The committee advise a well-ventilated cellar with a spring of cold water running through it, as the best place for keeping milk. They recommend that the pans be set in troughs and the cold water conducted around them till the animal heat of the milk has passed off—the water not to stand round the pans, but be constantly moving, and pass through a drain. After the milk is cooled, it is recommended to place the pans containing it into water, raised to the temperature of 170 degrees—but it should never boil or simmer. The pans of milk are then set back upon the troughs—(not in the water,) and stand for twenty-four hours, when the cream is taken off and churned. This process they say hastens the rising of the cream, so that it can be taken off in about half the time required in the ordinary way, improves the quality by preventing sourness, and greatly facilitates the operation of churning. The time occupied in heating the milk of a dairy of twenty cows, is from twenty-five to thirty minutes. The pans are made of tin, and handled when either cold or hot by tongs made for the purpose, which prevents any spilling or slopping of the milk. The churning is done every day except Sundays.

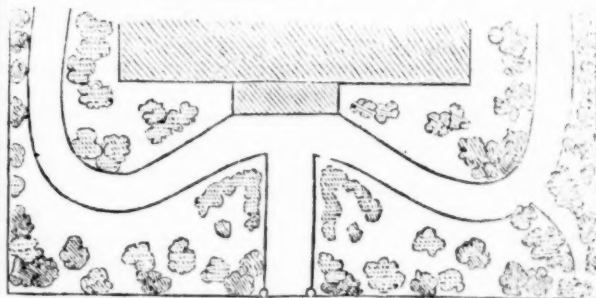
"In this way," say the committee, "good butter may be made at all seasons of the year. We prefer dog days, and the latter part of the season, before the frosts are so severe as to injure the quality of the grasses, on account of the many noxious weeds which find their way into the stomachs of some cows, while in their tender state in early parts of the season." The committee likewise remark, that the difference in the quality of the dairy products in different districts, is owing in part to the difference in the quality of the grasses on which the cows are fed. This principle they say is well settled in regard to tallow.

*Working butter.*—The committee say—"butter should be so made as to require but once working after the salt has been well incorporated—repeated workings expel more or less of the substances which constitute its good flavor, and should not be worked or washed off. If worked too much it will be gluey, and more tasteless than it should be in order to command the highest price." It is advised that

the buttermilk, be worked out as thoroughly as possible at the first working—that it then stand in an even temperature from 58 to 62 degrees, for twenty-four hours—then be again thoroughly worked, when it is ready for the table, or to be laid down.

*Washing butter in water.*—This the committee say they "cannot recommend," and that "it is never done by the best dairyists in England." When butter is shipped for long voyages, it is sometimes washed in the strongest brine made of rock salt.

*Kind of churn.*—The committee highly recommend a churn which one of them has seen at Washington, so constructed as to carry many currents of air through the cream until the principle of separation is formed without any friction of oar or dasher. They say they are inclined to think this churn may take the place of all others in large dairies.



VILLAGE DOOR-YARDS.—(Fig. 68.)

The need of greater improvement in most of these is very commonly felt. To facilitate a better mode than the common practice, the annexed design is given. The plan is intended for such as do not have more than five or six yards width from the road to the front entrance.

Little description will be needed: the promiscuous mixture of large trees and small shrubs, so frequently practiced because all of them are small when planted, should be carefully avoided. In so small a space of ground, none but shrubs and the smallest size of trees can be admitted, except it be two or three of larger size at the front edge or corners. A suitable intermixture of evergreens gives cheerfulness to the expression in winter. Evergreen shrubs are indicated by those heavily shaded in the plan, and deciduous ones by those lightly shaded. If the house fronts the south, east or west, the flower beds at the corners of the gravel walk opposite the front entrance, may be introduced with great propriety; and even in case it fronts the north, provided those flowering plants are selected which flourish in the shade. A side gate at the right hand corner of the yard serves as an entrance to the kitchen, and is entirely concealed from the view at the front door by the shrubbery.

The selection of shrubs and plants must be at least partly left to the taste and convenience of the proprietor. Among the plants, however, for the beds, the following will make a fine show, succeeding each other nearly in the order named: Crocus, (various kinds,) hyacinths, Collinsia verna, Phlox stolonifera, Narcissus (the various species and varieties,) Iris pumela, tulips, Aquilegia canadensis, moss pink, Veronica spicata and gentianoides, Phlox ovata, the Pæonias, Dictamnus (white and purple,) Spiræa lobata, oriental poppy, upright Clematis, common gladiolus, lillies (several species,) peach-leaved campanula (white and blue,) Liatris spicata and scariosa, Hibiscus palustris, New-England Aster, &c. Among the evergreen shrubs and small trees may be the red cedar, Chinese arbor-vitæ, Savin, English Juniper, tree box, white spruce, &c. Some of the finest deciduous shrubs are, Hibiscus syriacus, double-flowering almond, Tartarian honey-suckle, Mezereon, Japan quince, common white and purple, and Siberian lilacs, Philadelphus hirsutus, rose locust, purple fringe, laburnum, &c.; and among small trees, are the weeping and golden ash, the horse-chestnut, American and European mountain ash, the silver poplar, the striped maple, the glutinous locust, &c. The smaller shrubs should be next the house; the larger at the sides and front line.

## WINTER FOOD FOR STOCK.

Rich, loamy ground, will bear a good crop of English flat, or the Norfolk bullock turneps, after a crop of grass has been cut. Turn the sod over nicely, spread on some rotted manure, compost, or leached ashes, harrow well with a light sharp harrow, and sow the seed with a machine, or by hand, in rows eighteen or twenty inches apart, and when the plants are fairly out of the way of insects, thin them to eight or ten inches in the row, if intended for stock; if intended for the market, they should be thicker, to prevent their growing too large for the table. Four to five hundred bushels, and sometimes even twice that quantity, may be grown to the acre, and they are good food in connexion with straw, for cattle and sheep, till the middle of the winter, when they become so "corky" that the value is much lessened. The crop may be cultivated without much expense, if the weather only happens to be favorably moist at the time of sowing, and till the plants get into rough leaf. A very small harrow, with sharp knives so set as to cut the surface of the ground clean after the harrow-teeth, is the best tool we have seen for cultivating turneps on light land, and turneps can hardly be grown to advantage on any other.

Indian corn will give a good crop of fodder on rich land, sown or planted any time this month. Is not the kind called sweet corn, best for this purpose? We are inclined to think it is. It *suckers* a great deal, and the stalks are said to be as much sweeter than common corn-stalks, as its grain is sweeter than other kinds. Some varieties of it grow large also, and would probably yield as much weight as any. Another advantage about it, is the softness of the kernels—if it makes ears, the cattle eat them without waste, or at least with much less waste, than the kinds whose kernels are almost as hard as flint. It is the opinion of some farmers who have tried it, that this kind is best to raise for *fattening* cattle, where it is intended to feed stalk and ear all together.

With the exception of newland, or that which is free from weeds, we think it best to plant or sow corn for fodder in drills, rather than to scatter it on the ground broadcast. If it is in drills, a chance is afforded to work with a harrow and cultivator, and keep down the weeds. Mr. Newhall of Massachusetts, whose farm management was spoken of in our January number, prefers the drill mode—rows three feet apart, and two to three bushels of seed per acre. He has raised very large crops in this way—larger than we have known grown by any one else. Another advantage of the drill mode, is the convenient curing. It may be cut with common corn-cutters or stout sickles, laid evenly and regularly on the ground, and, when fairly wilted, bound close to the tops in small bundles and set them in small shocks, open at the bottom, and well protected against the weather at top, till dried enough to put in the barn or stack. It makes capital fodder in this way—better for cows than timothy hay, or indeed almost any other hay, excepting the best of clover.

*Millet* is a good crop for winter feed, on suitable land; that is, a light (or not heavy,) soil, of middling richness. There are several kinds of millet, but the German and the Italian are most commonly cultivated. We prefer the Italian. Some think half a bushel of seed is sufficient so the acre, sown broadcast, but no more than that quantity gives too coarse a stem, which does not make so good hay. We would therefore sow a bushel of seed to the acre. We have raised this grass in times past, and found it to make very nutritious and palatable hay. It should be cut while the seed is in the milk, well cured; and when fed, it is best to cut it with a machine. It will yield from a ton to three tons per acre, according to the state of the ground, the season, &c.

## CAST IRON ROLLERS WANTED.

MR. TUCKER—I have been for some time on the lookout for a *cast iron roller*, suitable for lawns, walks, roads, &c., and thus far, I have been unable to meet with any thing of the kind. I am rather surprised that this article is not made and kept for sale in all our principal agricultural warehouses.

No well kept, and well cultivated place, should be without one; and indeed, no gentleman's place, boasting

of either a lawn, or graveled walks, *can* be well or properly kept, without the frequent use of an implement of this kind. In England, they are as common, and thought to be as indispensable, as plows or harrows. They are constructed in various ways; but the simplest and cheapest, is a cast iron cylinder, from two and a half to four feet in diameter, and from three to five feet in length, with a shaft passing through the center; at each end of which, is attached the fixture for moving it, either by hand or horse power, according to its size or use. Arrangements are made to attach weights to the shaft, in the center of the cylinder, to make the roller either heavy or light, as may be required.

I cannot doubt that these articles would meet with a ready sale; and I think you would do many of your readers an essential and very acceptable service, by calling the attention of our manufacturers to the subject.

VINDEK.

THE YELLOW LOCUST.—In relation to the cultivation of the locust tree, Mr. Proctor, in his Address before the Essex Ag. Society, says—"I am fully persuaded that in no way can our barren and gravelly pastures be so advantageously used, as by covering them with the locust, which may be readily done, either by planting the seed, or by here and there transplanting a tree, and allowing them to spread, as they are much inclined to do. Lands thus managed, I have known to yield posts and rail-road sleepers, that sold for more than one hundred dollars per acre, for ten acres together, within forty years from the first planting—which, during this period had been of more value for pasturing in consequence of the trees growing thereon; for it is a fact, that the feed, both in quantity and quality, under and about the locust tree, is better than where there are no trees. Take into view also, the increasing demand for this kind of timber, for rail-roads, fencing, trunnels for ships, and other purposes, and the rapidity of its growth, advancing so rapidly that those who plant may gather, and it will not be easy to find an object more worthy the attention of the owners of such unproductive lands."

MAPLE SUGAR.—Mr. John Gotham, Kingwood, Preston county, Va., informs us that twenty-two pounds of sugar were made from one tree in a single season. The tree belonged to David Potter, and stood in Allegany county, Maryland.

## PRICES OF AGRICULTURAL PRODUCTS.

New York, May 21, 1845.

COTTON.—The exports of Cotton, from 1st to 20th of May, were 21,754 bales. Prices,  $5\frac{1}{2}$  to  $7\frac{1}{2}$ .

BUTTER.—Orange County, in tubs or pails. 15a18—New Western dairy, 11a14.

CHEESE.—New, sold readily at 7 cents.

FLOUR—\$4.56a\$4.68—Exports from 1st to 20th, 16,941 bbls.

GRAIN.—Wheat per bushel. \$1.04—Rye, 65a66—Oats, 25a32—Corn, 44a46. Exports, 4,907 bushels corn.

HEMP—Dew rotted, per ton, \$95—Dressed, \$145.

HOPS—per lb. 13a14 cents.

HAMS—Pickled, per lb. 5a7 cents.

BEEF—Exports 4,304 bbls.—prices not stated.

LARD—per lb.  $7\frac{1}{2}$ a8. Exports, 6,664 kegs.

PORK—Mess per bbl. \$12.50a\$13—prime, \$9.37a\$9.50. Exports, 6,735 bbls.

TOBACCO—Kentucky, per lb. 3 cents—Connecticut seed leaf, 8a10.

WOOL—Boston, being the great wool-market, we give the prices of Wool in that city, as reported in the New-England Farmer of May 21:

Prime or Saxony fleeces, washed per lb.....	\$0.42a0.48
American full blood fleeces.....	35a0.40
“ three-fourths blood fleeces.....	35a0.37
“ half blood do.....	32a0.34
“ one-fourth blood and common.....	30a0.31
Northern pulled Lamb's wool, superfine.....	36a0.37
do do No. 2.....	23a0.25

## ROME PLOW FACTORY.

THE DIAMOND PLOW which received the first premium at the State Fair at Poughkeepsie, as well as at every County Fair where it has been shown, is manufactured by the subscribers in the very best style, and for sale at wholesale or retail. Also, some eight or ten patterns of approved plans, as well as Scrapers, Cultivators, Cradles, Mott's Agricultural Furnaces, &c. Orders from abroad promptly filled, and a liberal discount to dealers.

March 1, 1845.

Rome, Oneida county.

BRAINERD &amp; COMSTOCK.



## AURORA AGRICULTURAL INSTITUTE.

**THIS** Institution, recently opened, is located on a farm of over 200 acres, lying in, and directly adjoining the village of Aurora, on the east bank of Cayuga lake, in Cayuga county, New-York, 16 miles from Auburn, by stage, and 12 miles south from Cayuga Bridge and the Auburn and Rochester Railroad, by steamboat direct, in summer.

Its design is to afford every facility for young men to make themselves thoroughly acquainted with the principles of Agricultural science, and their judicious application to practical husbandry; and particularly to afford young men from our large towns, the most favorable advantages for preparing themselves for Agricultural pursuits.

Terms \$150 a year, payable quarterly in advance. No person under fourteen years of age will, as a general rule, be received.

Pupils will be received at any time, and the course of instruction continued through the year without vacations, but permission of absence will be granted if requested.

Applications may be made to B. R. McIlvaine, 44 Great Jones st. New-York, to Rev. W. Roosevelt, 413 Rroome-st., and Hon. B. R. Wood, or the Editor of the Cultivator. Albany.

CHARLES C. YOUNG, A. M., Proprietor and Principal.  
ALEXANDER THOMPSON, A. M., M. D., Lecturer on Botany,  
Geology, Agricultural Chemistry, &c.

DAVID THOMAS, Visitor and Adviser.

May 1, 1845—3t.

## BOMMER'S METHOD AT REDUCED PRICES.

**THE** cheapness and expedition, by which manure may be manufactured with the Bommer process, and the various substances to which it may be successfully and advantageously applied, render it a valuable acquisition to every farmer that will adopt it. To facilitate its general introduction, it is proposed to sell the method uniformly at five dollars. Any individual shall be promptly furnished with a copy of the method without charge of postage, who shall remit the cash by mail to the general agent. It is intended to employ a competent travelling agent, as soon as practicable, in each county. My general agency includes the States of New-York, New Jersey, Virginia, Delaware, Connecticut, Rhode Island, Massachusetts, New Hampshire, Maine and Vermont.

## ONE HUNDRED AGENTS WANTED.

Wanted immediately, 100 active, intelligent and enterprising men to engage as travelling agents in the above mentioned States. Unquestionable testimonials will be required; and responsible securities will be expected, as guarantees, for the faithful discharge of the duties of the appointment. Persons of suitable qualifications, will find this both a useful and lucrative employment. Applications, if by mail, should be post paid and directed to me, at Westville, New Haven Co. Connecticut.

ELI PARNETT, General Agent.

Westville, March 1, 1845.

## FARMS FOR SALE.

**THE** farm in West Groton, known as 60 acres in the North East corner of Lot No. 63 Locke, consisting of a farm house nearly new, barn, and about 40 acres of improvement surrounded by a good fence, and now occupied by Robert Armstrong. Price, \$1,500. One thousand dollars can remain on mortgage for ten years, at legal interest, half yearly.

Also—The farm known as the State 100 acres in the South East corner of Lot No. 2, Cicero, about a mile from the town of Brewerton, on the outlet of Oneida Lake, consisting of an improvement of 40 acres fenced, with log buildings, and sixty acres of woodlands.

Also—The farm known as the State 100 acres in the South East corner of Lot No. 54 Hannibal, a short distance from the town of Fulton, on the Oswego river, a good woodland, with a small clearing.

Also—The wood lot known as the State 100 acres in the South East corner of lot No. 5 Manlius, a few miles from Syracuse, and in a good neighborhood.

Also,					
Wood lot known as the S	100 ac. in the S	E. c. of lot No. 7	Solon		
do do do	do do	do do	do do	19 do	
do do Survey	50 acres	do do	do do	25 do	
do do do	50 do	do do	do do	29 do	
do do do	50 do	N. W.	do do	36 do	
do do do	50 do	N. E.	do do	39 do	
do do do	50 do	S. E.	do do	58 do	
do do Sub 1	83 do		of lot 76	do	
do do do 7	30 do		do do	76 do	
do do Survey	50 do	N. W.	do do	98 do	
do do State	100 do	S. E.	do do	65 Virgil	
do do Survey	50 do	N. E.	do do	68 do	
do do Survey	50 do	N. W.	do do	69 do	

Apply to  
March 1, 1845—6t

JAS. L. BRINCKERHOFF,  
No. 32 Leight-street, New-York.

## PLOWS.

**AT** the Syracuse Agricultural Warehouse and Seed Store, can be obtained Delano's celebrated Diamond Plow made by Mr. Howard Delano, of Mottville, for the sale of which, we are sole agents for this town. Price, \$6 for plain plow, and \$10 for the wheel, coulter and cleve. Also, a full assortment of the well known Massachusetts Plow, made by Ruggles, Nourse & Mason of Worcester. 300 bushels seed barley, 300 do. pure Marrowfat Peas, 100 do. Clover seed, 150 do. Timothy, and a general assortment of all the varieties of seed sown by the tillers of the soil; Cultivators, corn plows, Wheel-barrows, Churns, Cheese Tubs, Cheese Cloth, Hoops and Presses, Hoes, Manure, Hay and Barley Forks, Shovels and Spades; and a very great variety of articles appertaining to the interest of the husbandman. Orders promptly executed.

Syracuse, April, 1845.—3t.

FOSTER & NOTT.

## AGRICULTURAL AND BUSINESS AGENCY.

**KNOWING** the convenience that such an Agency will be to his distant friends, the subscriber offers his services for the purchase of Match and Single Horses, Cattle, Sheep, &c.

Wagons, Carts, and Carriages.

Plows, Cultivators, Harrows, Rollers, Corn-Shellors, Corn and Cob Grinders, Threshing Machines, Grain Reapers, Horse Power, and all other agricultural implements.

Seeds and Merchandise of every kind.

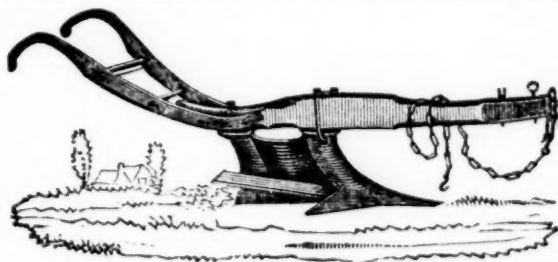
Manures.—Peruvian and African Guano, Ground Plaster, Ground Bones, Oyster Shell and Stone Lime.

Agricultural and other books.

From his long experience as a farmer and stock breeder, and general acquaintance with business, the subscriber trusts that he shall be able to give satisfaction. The commission charged for his services in purchasing or selling, will be moderate. Cash or produce must invariably be in hand, before orders can be executed.

Feb 18, 1845—3t.

A. B. ALLEN, 205 Broadway, New-York.



## WORCESTER EAGLE AND SUB-SOIL PLOWS.

**THE** subscribers have now on hand a full assortment of the above superior Plows, manufactured by RUGGLES, NOURSE & MASON of Worcester, Mass. It is acknowledged by all who have made the experiment, that the "Improved Eagle," is the best Field Plow at present in use.

The advantage of Sub-soil plowing, is now very generally admitted, and the plows made for this purpose by Ruggles, Nourse & Mason, are constructed upon the most approved principles.

Side Hill Plows, Cultivators, Straw and Root Cutters, and a general assortment of farming implements, for sale at the Hardware store of

PRUYN, WILSON & VOSBURGH,

Albany, April 1, 1845—2t.

39 State-street.

## AGRICULTURAL CHEMISTRY AND GEOLOGY.

**CATECHISM** of Agricultural Chemistry and Geology, by James F. W. Johnston, M. A. F. R. S. S. L. & E. with an Introduction by John Pitkin Norton of Farmington, Ct., from the 8th English edition with notes and additions by the author, prepared expressly for this edition.

N. B.—The above work, first published a year ago, has already gone through eight large editions, and is now used in 3,000 schools in Ireland, and nearly all the schools in Scotland. The present edition, improved from the eighth, and adapted to this country, is now ready—price 18 cents. A liberal discount allowed to the trade. All orders promptly attended to.

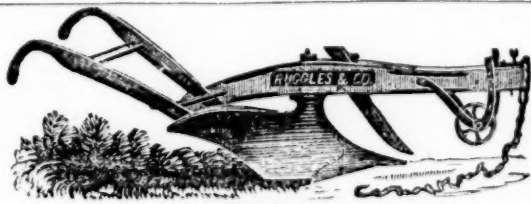
ERASTUS H. PEASE,  
Publisher, 82 State-street.

Albany, March 1, 1845.

## SEED STORE AND AGRICULTURAL WARE-HOUSE.

**OUR** Spring supply of seeds is now ready, and we shall be happy to receive orders for Field or Garden Seeds, of every description, Black Sea, Italian and Siberian Spring Wheat, Barley, Peas, Clover Seed, Timothy Seed, Seed Corn, Shaker and other Garden seeds, &c. Also, a full assortment of farming tools selected from the best manufacturers in the country. Hoes, Scythes, Forks, &c. cheap by the dozen.

Rome, Oneida county, March 1, 1845.



## QUINCY HALL

AGRICULTURAL WARE-HOUSE AND SEED STORE,  
BOSTON,

BY RUGGLES, NOURSE & MASON,

**MANUFACTURERS** of the distinguished WORCESTER PLOWS, among which, are a variety of patterns and sizes, adapted to all kinds and conditions of soil and modes of culture throughout the several States, and including the several sizes of their celebrated EAGLE pattern, and the genuine Scotch SUBSOIL PLOWS.

They hazard nothing in saying that with large additions to their warehouse and stock, they now offer to the agricultural public and dealers, a much greater assortment of agricultural and horticultural implements, machines, and seeds, than can be found at any house in the Union; all of which are selected from the most approved kinds found in this country and Europe.

All communications and orders from a distance, will receive prompt attention, and goods safely packed.

March 20, 1845—2t.

## CONTENTS OF THIS NUMBER.

## CORRESPONDENCE.

Mayence, Frankfort, Mode of Traveling, Giessen, Prof. Liebig and his Laboratory, by E. N. HORSFORD,.....	169
Prof. Johnston's Lectures, Refuse of Distilleries, &c. by J. P. NORTON,.....	171
Rotation of Crops, by J. GIRDWOOD—Agriculture of the Island of Jersey, by D. G. MITCHELL,.....	172
Rearing Rabbits, by R. A. P.—Description of Seedling Pears, by N. DARLING,.....	174
Centre-Draft Harrow, by J. PEDDER—Making Sugar from Cornstalks, by Wm. WEBB,.....	176
Pruning Fruit Trees, by D. TOMLINSON—Spontaneous Vegetation, by S. W.,.....	177
Notes by the Way, by SOLON ROBINSON,.....	178
On the Culture of Wheat, by Mr. M'VEAN,.....	179
Grade Cattle, by E. COMSTOCK—M'Cormick's Reaper, by W. H. H. TAYLOR,.....	181
Management of Fruit Trees, by P.—Sowing Corn and Oats for Fodder, by WOODSIDE,.....	182
Raising Poultry, by B. WANDS—Transmutation of Grain, by L. F. A.—Compound for Smearing Sheep, by S. HOXIE,.....	183
Condensed Correspondence,.....	194
The Morgan Horse, by S. W. JEWETT,.....	197
Cast Iron Roller, by VINEX,.....	198

## EDITORIAL.

Kerry Cows—Great yield of Butter,.....	173
To Correspondents—Monthly Notices,.....	184
Foreign Items—Answers to Inquiries, &c.,.....	185
Cutting and Curing Hay,.....	186
On the Management of Pastures,.....	187
Culture of Cucumbers, Melons and Strawberries—Agriculture of Nova Scotia,.....	188
Products of Caledonia Co. Vt.—Agricultural Advantages of New-Jersey—New-York State Agricultural Society,.....	189
Destruction of Weeds—Hay-Spreading Machine,.....	190
Mr. Colman's Tour, Part III,.....	191
Narrative of the Exploring Expedition,.....	193
Notices of several New Books—Condensed Correspondence,.....	194
Manufacture of Butter—Door Yards,.....	197
Winter Food for Stock—Yellow Locust, &c.,.....	198

## ILLUSTRATIONS.

Figs. 54 to 59—Figures of Seedling Pears,.....	174, 175
Fig. 60—Compound Center-Draft Harrow,.....	176
Fig. 61—Leicester Eve,.....	180
Figs. 62, 63—Tiles for Strawberries,.....	188
Fig. 64—Hay-Spreader,.....	190
Fig. 65—Ox-Cart of Chili,.....	193
Fig. 66—Taking Hay to Market in Chili,.....	193
Fig. 67—Morgan Horse Black Hawk,.....	196
Fig. 68—Village Door Yards,.....	197

ADVERTISEMENTS inserted in the Cultivator, at \$1.00 per 100 words for each insertion.

## NOTICE.

THE partnership formerly existing under the firm of THOMAS & SMITH in the Nursery business at Macedon, is dissolved by mutual consent.

Macedon, 5th mo. 1845.—June 1—11.

## LETTERS ON AGRICULTURAL IMPROVEMENT.

JUST published, small 4to. 1s. 6d. sewed; or 3s. cloth. A series of Letters on Agricultural Improvement; with an Appendix. By JOHN JOSEPH MECHL. With four plans of the Farm and Machinery. London: Longman, Brown, Green, and Longmans. June 1—11

## FOR SALE,

AT the New Commission Ware Rooms, No. 5, Burling Slip, viz: Premium Plows, universally approved, prices, \$3.50 to \$15. Premium Portable Burr Stone Mills, \$35 to \$100. Hussey's Premium Corn and Cob Crusher, \$35 and \$36. Dickey's Premium Fanning Mills, Corn Planters, Seed Sowers, Corn Shellers, Straw Cutters, and the "Warren's Portable Improved Horse Power and Thrashing Machines," &c. &c.

Samples of the foregoing articles, with others most approved, may be seen at the rooms of the undersigned, and all orders filled promptly. Wholesale or retail.

J. PLANT.

Successor to L. Bostwick & Co., 5 Burling Slip. New-York, June 1, 1845—11.

## NORTH DEVON CALVES.

THE subscriber offers for sale 4 full blood North Devon Bulls and 2 heifer calves.

Two of the Bulls 5 and 6 months old, price each,.....	\$25
One of the Heifers, 12 months old, price,.....	30
One of the Heifers, 18 months old, price,.....	40

They are beautiful animals, in fine condition, and of a suitable age to ship. Address

JOHN P. E. STANLEY.

46 South Calvert corner of Lombard-street. Baltimore, Maryland, June 1—21.

## BOOKS FOR SALE.

AMERICAN Farmer's Encyclopedia, price \$1—Skinner's Cattle Doctor, price 50 cents, and a variety of other works, for sale at the office of "The Cultivator."

## WOOL DEPOT.

THE subscriber will open a Wool Depot in the village of Kinderhook, and be prepared to receive from the farmers their wool in store, immediately after shearing, upon the following plan, which has been submitted to many of the most extensive WOOL GROWERS in this county, and receives their cordial approbation. If the lots of wool brought by each farmer are not even in quality, the subscriber will assort the fleeces, designating each sort by numbers, and keep a true record of the whole. As soon as a sufficient quantity has been collected to offer inducements for manufacturers to purchase, they will be invited to examine it, and it will be offered for sale at what each separate sort may be worth. But if the lots of wool are even in quality, or if the owner wishes, they will be kept separate, and offered for sale entire. Liberal advances in cash will be made when the wool is delivered in store, on the usual terms of commission business. An insurance will be effected on the wool, a reasonable proportion of which will be deducted from the sales. All other expenses will be paid by the subscriber, for which a commission of one and a half cents per pound will be charged.

Many of the most prominent wool manufacturers have engaged to visit the Depot for the purpose of buying.

Reference can be had to the following persons, viz: J. P. Beekman, Kinderhook; E. B. Pugsley, Ghent; J. J. Van Valkenburgh, Chatham; D. S. Curtis, Canaan; John Murdock, Lebanon; M. K. Beale, Austerlitz; John Martin, Claverack; J. C. Esselstyne, Claverack.

H. BLANCHARD.

Kinderhook, May 15, 1845.—June 11.

Mr. Blanchard proposes to establish a Depot for the reception of wool for sale according to the terms of his advertisement. His plan is, to my apprehension, the only feasible mode to enable the farmer to get the full value for his wool, as in most cases he is unacquainted with the market value of the article he sells, and thus prevents speculation by Agents; besides, it will be more satisfactory to manufacturers, as they can purchase a large quantity at once, and from their own inspection. I have the fullest confidence in Mr. Blanchard's capacity, integrity and judgment.

J. P. BEEKMAN.

Kinderhook, May 17, 1845.

## EXTENSIVE SALE OF IMPROVED SHORT HORN-ED CATTLE.

HAVING become over-stocked, I find myself under the necessity, for the first time, of publicly offering my cattle for sale; and that the opportunity to purchase fine animals may be made the more inviting, I propose to put in my ENTIRE HERD—such a herd of Improved Short Horns as has never before, perhaps, been offered by any individual in this country. The sale will embrace about fifty animals, Bulls, Cows and Heifers; all, either imported, or the immediate descendants of those which were so, and of perfect pedigree. Those imported, were from several of the best stocks in England, selected either by myself or my friends.

It is sometimes the practice at sales of this kind, where the interest involved is considerable, for the proprietor to protect himself by buy bidders, or some other kind of management, or for the owner to stop the sale if offers do not come up to his expectations or the requirements of his interest. Such practices have a tendency to lessen the interest in public sales of this character, especially with those who cannot attend without considerable personal inconvenience. But in this case, assurances are given that no disappointment shall arise to the company from either of the causes mentioned, and a good degree of confidence is felt that there will be no dissatisfaction from the character of the cattle themselves. They shall all be submitted to the company, and sold at such prices as they choose to give, without any covert machinery, effort, or understanding with any persons; reserving to myself only the privilege of bidding openly on three or four animals, which shall first be designated. This reservation is made but I may not get entirely out of the stock of some particular families which I highly esteem, and that could not probably be replaced.

A full catalogue of the animals was inserted in the May number of the Cultivator.

The sale will take place at Mount Hope, one mile south of the city of Albany, on Wednesday, the 25th day of June next, at 10 o'clock A. M.

E. P. PRENTICE.

Mount Hope, near Albany, May 15, 1845.

Gentlemen from a distance, who wish to obtain stock at the above mentioned sale, and may find it inconvenient to attend in person, are informed that the subscriber will make purchases for those by whom he may be authorized. They can state the sum at which bids should be limited, and if convenient, designate the animals they would prefer; or give such general instructions as they may deem proper, under the assurance that they will be strictly adhered to.

SANFORD HOWARD.

Cultivator Office, Albany, March 15, 1845.

## DURHAM BULL CALF AND HEIFERS.

THE subscriber will sell a Durham Bull Calf one year old 21st March 1844, a remarkable thrifty animal and good handler; when about 10 months old weighed 720 lbs. He was got by his prize bull Meteor. Also, a yearling and a two year old heifer, one got by Meteor, and one by the imported bull Duke of Wellington. Letters post-paid, will be answered.

GEO. VAIL.

Troy, May 1, 1845—21.

## FARM IN ILLINOIS.

FOR SALE—A good farm, with valuable improvements. The subscriber being about changing his business, will sell a great bargain. Also has in immediate vicinity, 2,000 acres choice land, which he will sell at a discount from government price. Address ISAAC HICKLEY, P. M., Audubon, Montgomery Co., Illinois.